DOCUMENT RESUME

ED 058 124 SO 002 207

AUTHOR Smith, Stephen L.
TITLE An Exegesis of Outdoor Recreation Research.
INSTITUTION Texas A and M Univ., College Station. Texas Agricultural Experiment Station.
PUB DATE Jul 71
NOTE 49p.

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS Bibliographies; *Environmental Research; Geographic Location; Human Engineering; Leisure Time; Models; Natural Resources; *Parks; Psychological Design Needs; *Recreation; *Recreational Facilities; Research Needs; *Site Analysis; Site Selection

ABSTRACT

The objective of this paper is to explore the state of recent recreational research by U. S. Geographers and social scientists. This report views the importance of recreationalists behavior patterns and describes the use of simulation models to predict demand data. Four research phases constitute the main organization of this paper: 1) Anticipation and 2) Recollection phases discuss and question the psychological needs of recreation. Attitudes, facilities, spacial relationships, cost, and distance traveled are identified as predictive factors for recreational attendance. 3) The Travel Phase looks at the distance that people will travel depending upon other factors such as site attractiveness. Research indicates that beyond a certain number of miles distance is not predictive. 4) On the Site Phase considers site attractiveness (perceptual environment) as a major allurement which gives the greatest satisfaction to visitors. Findings of this research report raise questions regarding the nature and goals of recreation which need to be answered and suggest that a fruitful area for study may be conceptualization of the decision-making process in recreation. Included are 386 bibliographic citations, and an outline of current research topics in outdoor recreation. (SJM)

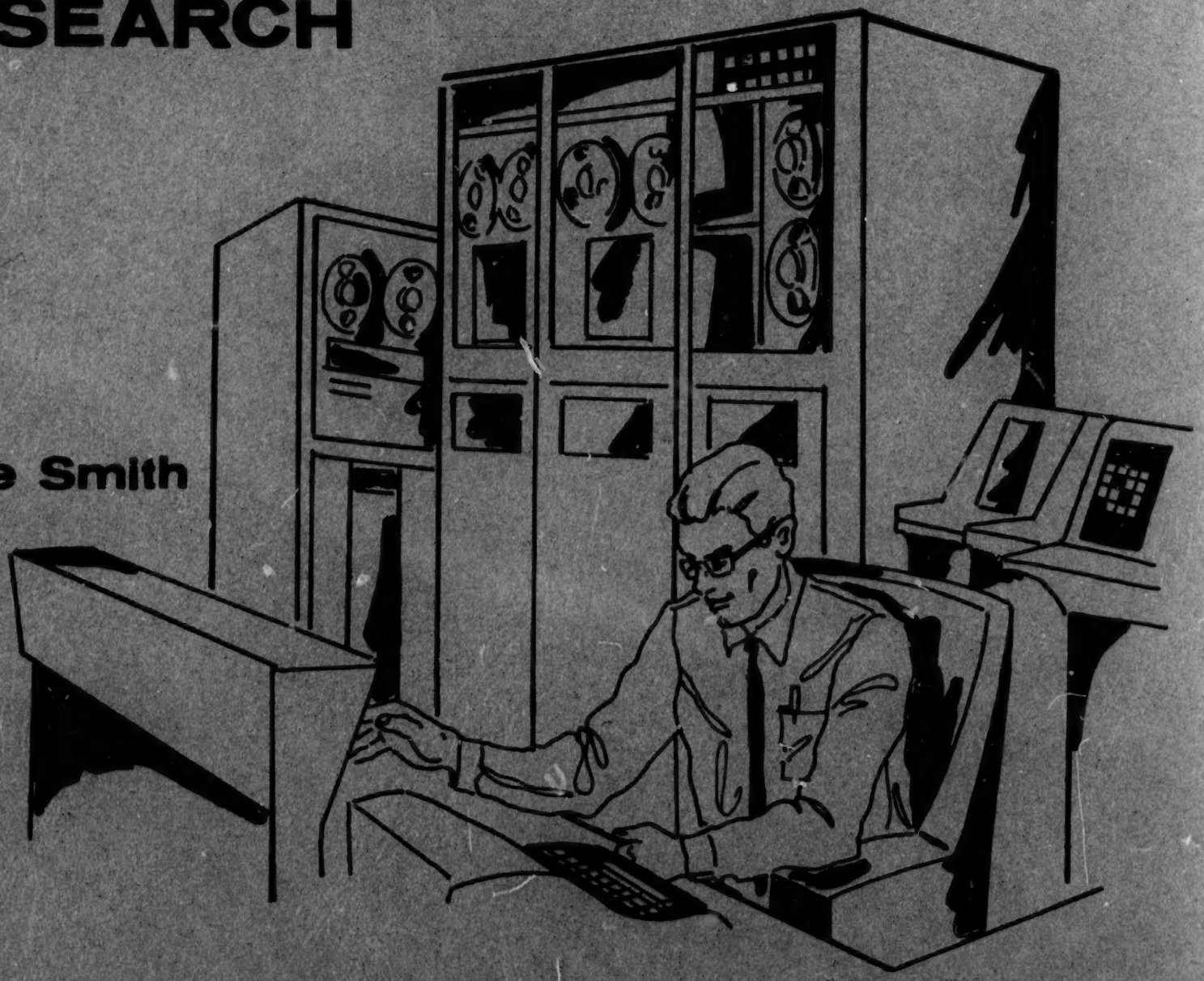
ED0 581124

SP002207

DEPARTMENT OF RECREATION AND PARKS

SPECIAL RESEARCH REPORT

AN EXEGESIS of OUTDOOR RECREATION RESEARCH



By
Steve Smith

COLLEGE OF AGRICULTURE, H. O. KUNKEL, DEAN.
TEXAS AGRICULTURAL EXPERIMENT STATION
TEXAS A&M UNIVERSITY

ED058124

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

AN EXEGESIS OF OUTDOOR RECREATION RESEARCH

by

Stephen L. Smith
Research Assistant
Department of Recreation & Parks
Texas A&M University
July, 1971

AN EXEGESIS OF OUTDOOR RECREATION RESEARCH

In 736 BC Isaiah (5:8) wrote: "Woe unto them who add house to house and join field to field until everything belongs to them and they are the sole inhabitants of the land." Due perhaps to prior and conflicting advice ("Multiply, fill the earth and conquer it," Genesis 1:28) with this divinely inspired initiation of the field of open space planning and outdoor recreation, little was done until the eighteenth century AD when Thoreau lamented the frittering away of man's energy and spirit by too much work and too little leisure.[1] The following century saw an increase in the number of outdoor recreation advocates, most notably John Muir, Theodore Roosevelt, Frederick Law Olmstead and John McLaren. Olmstead and McLaren were largely instrumental in establishing Central Park and Golden Gate Park, respectively. Subsequently, this country has witnessed the growth of various city, county, state, regional and national park systems as well as an increase in private parks, resorts and like facilities.

For a variety of reasons the study of parks, recreation and tourism was never vigorously pursued by geographers and other social scientists. Observing this fact, R. E. Brown, in 1935, wrote:

> From the geographical point of view the study of tourism offers inviting possibilities for the development of new and ingenious techniques for research, for the discovery of facts of value in the social implications in what is virtually a virgin field.[2]

Again in 1949 an invitation was raised, this time by George Deasy.

> . . . because of the inadequate attention to the tourist industry by geographers, there exists a concomitant dearth of techniques, adaptable to the collection, analysis, interpretation and cartographic representation of geographical data of the subject.[3]

In 1954 C. McMurry contributed a section on recreational geography to Preston James' American Geography: Inventory and Prospect. McMurry notes that most recreational writing began in the 1930's, among the first of such studies being his own paper on the land use types significant to hunters and fishermen in northern Michigan. Commenting on the contributions of other geographers, he cites only ten other articles in the field, in the United States and Canada, between 1930 and 1947. These dealt, primarily,

with studies of specific areas.

Between 1947 and 1951 McMurry finds that five surveys were initiated by state agencies to identify recreational travel patterns and expenditures. Four other studies were undertaken by individuals dealing with various facets of recreational behavior in specific states.

Campbell (1963), Wolfe (1964) and Mercer (1970) upon reviewing various areas of the recreation field have also commented on the relative lack of relevant literature in geography but have noted its abundance in other fields.

With these comments in mind, it is the purpose of this paper to explore a sampling of the research that has been done, not only in geography, but in other social sciences primarily in North America, and in doing so, to suggest some areas of additional research.

One theme common among many recreation geographers is that a most important consideration should be the behavior patterns of recreationists and their perception of the recreation experience. Marion Clawson[4] has developed a model of the recreation experience that consists of five parts: (1) anticipation and planning, (2) travel to the site, (3) on-site activity, (4) the return trip, (5) recollection. To provide a structure for the selection and organization of this paper will consider research themes that are related to these stages of the recreation experience. The first and last stages will be considered together, however, in a discussion of some of the psychological aspects of recreation and the second and fourth stages will be combined into research in travel.

The Anticipation and Recollection Phases

It has been suggested by some sociologists and psychologists that man has a deep-rooted need for outdoor recreation--which, of course, manifests itself in a desire and anticipation of an "experience." While the feeling that an absence of outdoor recreation may lead to mental and physical pathologies has been questioned by many scholars, little actual research has been done into the social, psychological, moral and religious ends and value of recreation. Wolfe[5] has observed that "it is precisely those whose city environment is the greenest, those who live on tree-lined streets and carefully tend their generous gardens, who are most likely to summer in the

greenest countryside." This is also argued by Gans[6] who notes that there is no proof of mental and physical strain being caused by a lack of recreation and open space. Wingo,[7] on the other hand, has supported a slightly opposing view by arguing that "the popularity of the low density suburban dwelling probably reflects the surging demand for more private forms of recreation among middle-class, child-oriented families, suggesting that metropolitan scatteration is as much a recreation as a housing phenomenon."

Betty van Der Smissen[8] cites examples of the use of summer camps to treat mentally retarded children but urges more and different research programs to see what role recreation plays in mental health, both from the aspect of improving it and in maintaining mental, emotional and intellectual well-being. H. Douglas Sessoms[9] lists various functions that recreation may perform for the individual and thus contribute to the demand for recreation: (1) sense of personal mastery, (2) increases self-regard, (3) reduction of tension, (4) affiliation (in group activities), and (5) identification. Herbert J. Gans as mentioned earlier has contributed a section on "Outdoor Recreation and Mental Health" in Volume 22 of the Outdoor Recreation Resources Review Commission Study Reports. Other researchers including Dubos,[10] Milgram,[11] Nagashima,[12] and Wolpert[13] have observed that dissatisfactions and tensions created by the present urban environments does provide a "push" away from the work-a-day routine to some types of leisure activity. Recreation, to them is a necessity, a need that forces men to leave home and the normal routine in order to satisfy it.

Anticipation is closely related to demand, and perhaps not too surprisingly, demand studies in geography, economics and planning are a frequent research theme. Projections of demand can be accomplished by one of two general methods: (1) extrapolation of past trends and (2) use of simulation models. The first has often been used by state and local planning agencies and by the federal government in such well-known programs as "Mission 66" and "Operation Outdoors," undertaken by the National Park Service and the U. S. Forest Services, respectively. These are particularly valuable for short-run projections, but often, as in the case of Mission 66 and Operation Outdoors they can seriously under predict reccreation growth.

Of more interest and sophistication are the various types of simula-

tion models; one of the better known of which is the gravity model. A simulation model is particularly useful in areas where there are no past trends to rely on for predicting future attendance. Working in such an area, Ullman and Volk[14] obtained attendance data for interaction between various counties and lakes. From this they were able to plot distance regression lines (a version of the gravity model). Considering the various county-lake pairs as geographical analogs of a specific region in which a major reservoir was proposed they were able to predict attendance at the reservoir from a major city, given its population and the distance to the reservoir.

Van Doren[15] in his work in Michigan also developed a gravity model to predict the attendance of recreationists at the various state parks. In this work and that of others such as Lucas[16] the facilities at a recreation site were considered to be the critical variables in determining attendance at that site.

Other studies by Lucas,[17] Hecock,[18] Lentnek, Van Doren and Trail,[19] and Van Doren and Lentnek[20] consider the effects of recreationalists' attitudes, perceptions and specializations on the distribution of activity. The role of leisure in society and its expression on the landscape is largely determined by group or aggregate perceptions of leisure opportunities, motivations, values and the aggregate individual awareness spaces expressed as the mean information field.

In "Spatial Behavior in Recreation Boating" the authors examine how the effects of activity specialization in boating (pleasure cruising, fishing, waterskiing, sailing or nonspecialization) are reflected in the distance traveled and the time spent in the activity. House[21] and Swigel[22] have examined the role of various socio-economic factors in affecting recreation patterns.

If the phrase "awareness space" is understood to mean that region including all those recreation sites the individual has knowledge of, it follows that the results of the anticipation stage decision-making process are limited to those sites with the awareness space that he further perceives to have some minimum threshold utility and associated time and money costs that are not prohibitive. This utility has been defined by Harvey[25] to mean the "symbol" given to the individual exper-

iencing the site. The nature of "symbols," "signals" and "images" of environmental quality has been carried on by a large number of researchers including Wolpert, Gould, White, Adams, Brown and Moore. Most have addressed themselves to residence changes and travel to work rather than to recreation. Most of what recreation research that has been carried out has been directed towards the nature and structure of perceptions due to on-site activity and will be discussed later. Mercer[26] (Australia), O'Riordan[27] (Canada) and Deasy and Griess[28] (Pennsylvania) are the only researchers to the author's knowledge that have considered the question of the role of mental maps and a priori awareness in affecting recreation travel patterns.

The Travel Phase

The second stage of the recreation experience, travel, can be approached in a variety of ways. One such method is the expression of recreational travel in terms of migration theory. The gravity model is a traditional model used in migration theory. It was mentioned briefly above in terms of the "push" (in a psychological sense) in a push-pull dichotomy. Before, it was suggested that some inner human need generated flow away from a residence to a recreation site; some models look at, not the psychological needs of recreationists, but rather at the site attractiveness as the flow generating mechanism ("pull"). With this in mind, researchers attempted to develop a relationship between attendance, distance and some measure of site attraction or utility.

One of the first recreational travel models for replicating traffic flow was Crevo's[29] gravity model. In this study he replicated recreation trips from southeastern Connecticut to two parks located on Long Island Sound.

Boyd Wennergren and Darwin Nielsen[30] developed a simple conceptual model and applied it to lakes in Utah, Idaho, Wyoming, Montana and Nevada. The probability of selecting one specific site from a list of possibilities by a recreationist is equal to the "utility" of that site divided by the sum total utility of all the possible sites:

$$P_{ik} = U_k / \sum_{k=i}^{n} U_k$$

where P_{ik} is the probability of attending alternative site k from location

i, U_k is the utility of site k, and n is the number of alternatives. The utility function is, in this study, directly proportional to the surface area of the boating site and inversely proportional to the travel distance between the point of origin (boater's residence) and the site being considered. The probability of a boater at origin i attending lake k is thus given by:

$$P_{ik} = [S_k^a/D_{ik}^b]/[\sum_{k=1}^{n} S_k^a/D_{ik}^b]$$

where S_k is the surface area of the k^{th} boating site, D_{ik} is the distance between origin i and site k, a is a parameter which reflects the effect of the surface area on attendance and b is also a parameter which reflects the effect of distance on attendance.

Van Doren,[31] in his study on Michigan State Parks developed an attraction index based on the location of the park in terms of water (inland lake or Great Lake); various man-made features such as boating facilities, trails, beaches, number of campsites; and natural features such as vegetation, climate, and topography. This index was then used in an interaction model with the population of 77 centers of origin and a time-distance measurement between each of the 77 origins and 55 parks.

Another approach was taken by Jack Ellis[32] in a study on the same park system. In this work Ellis used a system theory model which can be thought of as an electrical analog where the origins act like sources of current (flow of campers). The current "perceives" various paths of differing resistances and distributes itself in the system to achieve a state of minimum energy. The flow at each park is thus a function of the "resistances" of the parks, linkages, and the current strengths at the origins. The origin data was the measured flow of user-units (camper-days) from each origin at any park. The first step was the formation of a destination component equation:

$$F_j = A_j P_j$$

where F_j is the flow of camper-days entering park j in one season, A_j is the attraction index (determined by Van Doren in the model discussed previously) and P_j is the pressure of user demand at the park gate. The flow through any link is given by:

$$R_k = CTD_k^b$$

where C is a constant for all links, TD_k is the time to traverse link k and b is a fixed exponent.

A related statewide systems model called RECSYS has grown out of the work by Van Doren and Ellis. Chubb[33] has improved this model by developing a more realistic carrying capacity measure and by employing a computer graphic technique, SYMAP. The RECSYS - SYMAP combination was then utilized to predict future demand for recreational boating in Michigan.

Similarly, Wolfe[34] and Ellis[35,36] have adopted the systems approach to simulate and predict recreation traffic flow to and between provincial parks.

One alternative method of looking at interaction over a distance is Stouffer's concept of intervening opportunity.[37] Basically this suggests that the probability of interaction or migration between origin i and place j is reduced by the number of other opportunities for interaction between i and j. One study that has utilized this notion of intervening opportunities is Ullman and Volk's study in the Meramec Basin.[38] In an attempt to calculate the benefits from the development of a large reservoir closer to a major city than present existing reservoirs (an intervening opportunity), they conducted a survey which included the question "If a lake similar to this one were built half as far from your home, would this decrease your visits to this lake?" to the extent of "eliminate completely, reduce greatly, reduce slightly, no effect, don't know." The result was one-third diversion. From this they could determine the number of visitor miles saved which were converted into dollars of benefit. In this particular study it should be noted that intervening opportunities were used to determine benefits derived and not primarily for predicting attendance at a lake. Catton,[39] on the other hand, felt that for some recreation trips that Stouffer's intervening opportunities do not provide competition for more distance destinations, but provide "stepping stones" for recreation migration, much as a series of islands in an archipelago provide stepping stones for animal migration.[40]

A general review of interaction models including those mentioned here can be found in Gunnar Olsson's Distance and Human Interaction.[41] Several basic conceptual modifications have been suggested by various researchers. In examining patterns of visitors to parks and resorts, Wolfe has "found that beyond a certain quite considerable distance . . . the friction of

distance not only disappears but becomes, as it were, reversed; the exponent for D is no longer negative but positive, and the further people go, the further they want to go."[42,43] Lentnek[44] and others discovered that different activity specializations result in different distance decay curves; specifically, that recreational boating was actually a conglomerate of a number of different component activities such as sailing and fishing. Wolfe foretold this necessity by suggesting that "the stream of recreation travel . . . must be broken down into its component parts, and each part studied separately."[45]

Rengert,[46] Webber,[47] and Lansing[48] rather than considering distance as a constant and relating interaction to this constant, have all treated distance as a function of various socio-economics and behavioral variables.

Referring to work previously mentioned on mental maps, Mercer[49] has found that distances are perceived shorter for recreation travel (1) in the direction away from the CBD and (2) along more familiar routes.

Still another approach to travel research was urged by Colin Campbell.[50] He suggested:

> that a framework of thought will be acquired only when this order [traditionally research emphasis has gone first to the recreation site, then the recreationist and lastly to the city or source of market] and the geographer focuses his attention specifically on the spatial relationship between the city and the recreational area.[51]

The model he then proposes has four underlying points:

1. The city generates a demand for recreation.
2. There should be a distinction between the recreationist (activity-oriented) and a vacationist (trip-oriented). They are at opposite ends of a continum.
3. Attention should be focused on the spatial relationships involved as a consequence of the patterns of movement of the recreationists and vacationists.
4. Both recreation and vacation industries are highway oriented.

Data collected should be used to delineate an urban hinterland used for recreation, vacation service regions and a vacation complex. In addition to these hinterlands one can determine traffic flow patterns, recreational forms and activity characteristics for recreationists, vacationists and recreational vacationists.

In commenting on Campbell's concern over the "lack" of geographic

research into recreational hinterlands, Mercer,[52] cited several articles and studies dealing with just that topic. Buerle presented a paper at the 62nd annual meeting of the Association of American Geographers on the "Social Hinterlands of New York City and Boston in Southern New England."[53] A similar study was exacted by LaPierre[54] for the city of Montreal. Mercer also lists a number of similar studies for the United States, Canada, Great Britain and Australia. A common but significant finding in all these studies is that the recreational hinterland is relatively restricted for both day and overnight weekend trips. Sixty per cent of weekend trips terminated within a two-hour drive of the city center and the most frequently traveled one way distances was seventy-five miles. These findings prompted Cracknell to write:

> This suggests that the car is used more for flexibility in timing and route rather than to extend the distance travelled: it enables the recreational belt to be more intensively used but has not noticeably extended its radius.[55]

One problem facing a researcher in recreational hinterlands is that many people utilize driving as a form of recreation unto itself. Traffic volume counts can, to a degree, alleviate this problem and possibly provide more information about the size and shape of the hinterland. One such study was the 1964 Melbourne Metropolitan Transportation Study.[56]

As for traffic volume counts themselves, the Automotive Safety Foundation of Washington, D. C. has aided most U. S. states and Canadian provinces to develop a plethora of highway volume, capacity and needs studies, in which recreational travel is given more than adequate coverage. Just one such example is Wolfe's Parameters of Recreational Travel in Ontario.[57] As other researchers have noted, Wolfe remarked on the variations in traffic patterns between a recreational and a nonrecreational highway. A recreational highway shows one peak daily (either at midday or in the early evening); a weekly maximum during Saturday and Sunday; and a yearly maximum in the summer. A non-recreational highway has two daily peaks -- one in the morning and one in the late afternoon; relatively uniform traffic volumes Monday through Friday, with a minimum over the weekend; and relatively uniform volumes in all months of the year. One preliminary conclusion that is stated tends to "complicate" research into recreational travel:

> There is no such entity as recreational travel. To gain a just idea of how our recreational highways are used, the stream of

> recreational travel on those highways must be broken down into its component parts, [origins, links, nodes] and each part studied separately. Even that is only the beginning.[58]

In addition, Wolfe suggests that the patterns of highway use differ significantly for cottagers, campers, commercial guests and day visitors. This will complicate the problem of prediction even more since different proportions of these various recreationists will create different highway patterns.

Another approach to the problem of recreation travel is that of considering distance and time as transport costs and the recreation experience as an economic good. The effect of distance is discussed by Tiedmann:

> Distance can usually be viewed as having a negative effect on the desirability of a good. That is, the greater the proportion of the total expenditure for a good which goes into travel, the less likely one is to procure the good. If we recognize the fact that procurement cost is composed of (1) the purchase cost, (2) background costs such as license fees and other prior investments and (3) travel or transport costs, then it is easy to arrive at the consideration that for a given amount of total investment money available to the individual, a reciprocal relationship exists between travel and other costs for a given purchase cost.[59]

The same theme can be found in the work of many researchers such as Clawson and Knetsch,[60] Van Doren,[61] Ullman and Volk,[62] Lentnek, Van Doren and Trail[63] and Wingo.[64]

By combining a distance measure, user fees, license fees, food and lodging costs above those normally accrued at home and the cost of equipment into a measure of the total costs and plotting this against participation rates one can develop demand schedules for specific studies. Similarly, time that could be devoted to increased work hours (and thus income) is often devoted to the pursuit of recreation. The amount of time thus given up is a cost the recreationist is willing to pay for his leisure and fun. As such it is possible to draw curves relating the workweek in hours to the number of days spent in recreation per year. This can be further refined to measure such demand tradeoff for various socio-economic groups.[65] One measure of the average relationship of participation and cost is the elasticity of demand for a given activity. This can be expressed as the percentage change in participation (quantity) divided by the percentage change in cost (price). An elasticity less 1.0 indicates a percentage change in participation less than the change in cost; unitary

elasticity reflects equal percentage changes in participation with cost; and an elasticity greater than 1.0 results when the change in participation is greater than the change in price. Owens[66] has determined elasticities for [ranked in decreasing elasticity] hunting, snow skiing, camping, power boating, fishing, sightseeing, golf, picnicking and swimming and found the elasticity of hunting to be greater than 1.0 and that of all the others between 0.0 and 1.0. He concludes that the higher cost activities have the higher elasticities in response to a price decrease.

At a scale larger than is traditionally considered, Williams and Zelinsky[67] have attempted to examine some patterns in international tourism. They did discover certain regularities that may be explainable by mental maps, historical events and economic relationships. While their initial attempt failed to produce much of substance, they did point out some areas for future study and some serious gaps in data. They suggested that some researcher follow up the tempting isomorphism between recreation travel and residential migration.

Clawson, in developing his recreation experience model, separated trips to and from the site. This author knows of no study that has addressed itself, not to characteristics of recreation travel vis-a-vis other forms of travel, but to a systematic study of variations between the trip-to and the trip-from or the variations among the legs of a multi-destination trip.

The On-Site Phase

A major aspect of the on-site stage of the five stage recreation experience model is the attractiveness of the site. This attractiveness seems to be, in part, a function of the "facilities" (natural and man-made) that allow and/or enhance the ability of a visitor to achieve satisfaction. The attraction may be in the form of recreational equipment such as playgrounds, campsites, water or wilderness setting.

Various authors have attempted to quantify the measures of site attractiveness. Wennergren and Nielsen used a measure as simple as the surface area of a lake while Van Doren used a large number of variables and a factor scoring routine to obtain a more sophisticated measure of "drawing power." This latter study dealt with intermediate recreation areas (as defined by Clawson and Knetsch) and met with limited success in

explaining attendance. In examining user oriented areas, Mitchell[68] devised a facility index based on subjective values assigned to such facilities as a baseball field, fishing, hard-surface area, tennis courts, swimming pool and playground equipment. The greater the attraction of a facility the higher an index number applied. For a park, the individual facilities were totaled. A simple regression analysis indicated the index thus defined to be a significant factor in determining attendance.

Another technique to quantify the attractiveness of an area was developed by Leopold.[69] The techniques he devised measures the uniqueness, rather than the beauty of a river valley. He uses forty-six factors comprising physical, biological, water quality, human use and interest aspects of a river valley. These factors are then assigned a classification number from one to five, inclusive, according to a series of scales developed in the study. To discover the relative uniqueness of each site in terms of a given factor one determined the number of sites out of the total sample that fall into a given category. The reciprocal of that number is the "uniqueness" ratio of that site for that factor. The ratios can then be totaled for all factors for each river to allow a comparison of uniqueness (in beauty or spoilation) between a number of sites.

Perhaps more important than measures of physical parameters to determine attraction are studies involving how an individual feels about an environment. In a recent article Shafer[70] examined a few examples of perception measurement. One technique is the direct approach where one asks a sample population how they feel about a given site. This provides some relevant and useful answers for planners, if one keeps in mind the problems of misinterpretation of responses or the fact that an individual may not know why he responded as he did. Some researchers have suggested that, on occasion, respondents have indulged in wishful thinking with the result that the expressed preferences are difficult to translate into concrete actions and reform.

A second method, indirect, is to develop a regression equation based on a set of features the researcher feels is relevant. A study by Shafer and Thompson[71] of Adirondack campers yielded the equation:

$$Y = 3409 - 0.0183(X_1 + X_2) + 0.157(X_3) + 0.0002[X_4(X_3)^2]$$

Where:

Y = total annual visitor days per campground

X_1 = area of land at a developed swimming beach

X_2 = area of water at a developed swimming beach

X_3 = total number of campsites

X_4 = number of islands accessible by outboard motorboat

This equation yields an R^2 of 0.91.

Shafer suggests that since a rich perceptual environment can lead to a high degree of satisfaction, "the most important question a planner may wish to ask is not 'how do people feel about an environment?' but rather, 'how is the total variation of that environment distributed among its various elements?'."[72]

To begin to answer this question, to isolate mutually independent sources of variation, a most valuable technique is factor analysis.[73] This technique has been used by Van Doren[74] and by Shafer and Thompson in the Adirondacks.[75]

Lucas' article, "Wilderness Perception and Use: The Example of the Boundary Waters Canoe Area" has become something of a classic in geographic perceptual literature. In his study he concludes, as many others have, that resources are defined by perception. This is particularly true of scenic and recreational resources because of the intimate and subjective nature of their use. Despite the subjectiveness of such resources, and specifically wilderness, the scientist, land manager and park planner can deal rationally and in an orderly fashion with perceptual variations. Through a series of interviews Lucas discovers, in the study area, that there are two main wildernesses -- one "belonging" to the paddling canoeists and one defined by motorboaters, and a subsidiary wilderness defined by the tastes of motor canoeists. A decision must be made, Lucas says, to either limit the use of various areas through zoning and regulation or letting the wilderness vanish from over-use by each activity group. "If research on wilderness perception can identify segments within the range [of wilderness definitions] which are characteristic of certain types of recreationists, it should be possible to increase both the amount and quality of wilderness recreation."[76]

Traditionally studies of site perception have been concerned with wilderness and near-wilderness areas. Earickson and Murton[77] have examined the nature of perception towards urban open-space and recreation amenities. These results support the theses that the desires and perceptions of populations in an urbanized area are a function of ethnic characteristics and length of residence; and that long-term residential circulation patterns correlate highly with the expressed preferred environment. Sonnenfeld[78] struck a concordant note by stressing that the separation of natives and non-natives is essential in discussion perceptions of and demands on the environment. His study suggests that natives are less discriminating in their perceptions than the more mobile and experienced non-natives.

The on-site experience of a recreationist is affected to some degree by the planning and ability to predict demand at the site or park before his visit. His response, and that of his recreationing comrades, can affect, significantly, future development at that park. Such preference studies, however, should be extended to home interviews so as to determine more accurately the preferences of the vacationer and recreationist and the desires of non-users as well.

The responses must be carefully assessed for validity and accurateness of expression. Many responses concerning the level of development and cleanliness are highly subjective and relative. Opinions may be couched in terms of the individual's own experiences and short-term personal benefits, a situation which might be at odds with long-term public welfare. The user's knowledge is often woefully inadequate to express opinions and gauge alternatives for situations which may seem as irrelevant abstractions to him. In response to such problems in user preference Reid has proposed a methodology to obtain usable data:[79]

1. Identity of the respondent -- socioeconomic profile
2. Experience -- past participation, frequency, type, etc.
3. Origin-destination -- distance, mode of travel
4. Recreation equipment
5. Preferences for the future -- new activities, equipment, altered time budgets, locational shifts

Conclusions

Having completed this hopefully representative, albeit incomplete, literature review in the social sciences, we can begin to recognize some areas that invite fruitful examination.

Perhaps it is in the anticipation and recollection phases that we find more questions and fewer answers about the nature of leisure and recreation. We briefly questioned whether or not a lack of recreation opportunities leads to a variety of infirmities. The more lengthy answer was essentially, "Who knows." Our general understanding of the goals of recreation is very poor. The conceptualization of the decision-making process in recreation may be a very fruitful area for study. How much does experience, information flows and conscious thought come into play in making a decision? Just how is it done? Presumably individuals operate under the principle of economic optimization -- maximization of satisfactions. In terms of recreation and leisure desires, what does this really mean; how does the individual define satisfaction?

Stepping backwards for a second, what is recreation and leisure, especially to the one doing it. Is it, ideally, a refreshment and a re-creation of the person's mental health, or is it primarily just amusement? If the frame of mind or attitude is important in "defining" a recreation activity, is this attitude not affected by all the experiences and stimuli throughout the individual's life, and to a greater degree by the quality of his physical, biological, social and mental environments at present? Mercer rather forcefully states, "Research into user satisfactions and preferences for recreational areas and facilities must be viewed within the wider context of research into satisfactions with the natural and human environments in general."[80]

This seems to be suggesting that recreation research will require the inquiring into man's tolerance and perception of crowding; air, water, noise and visual pollution; and his needs for living and working space. An easy introduction into this last topic is Hall's The Hidden Dimension.[81] Related questions that might arise would address themselves to the effects of big yards, private pools, second home ownership and backyard playground equipment on demands for similar public and profit facilities. How do urbanized recreationists prefer to use and develop the natural environment

in terms of recreation facilities? Does this propensity for a given type of development, if it exists, differ from that of rural, small-town and suburban residents? Can one group's desire be changed to fit some theoretical ideal standard through environmental interpretation and education? Is it important to do so? A few researchers and a host of writers have speculated on the answers.

Relatedly, in examining the problem of on-site perception at both parks and resorts, Mercer, again, suggests four areas of inquiry:

1. Awareness and attitudes of recreationists to particular sites at all scales
2. The process by which they acquire this information
3. The attitudes of the recreationist to the home environment
4. The relationship between these attitudes and overt leisure behavior

This is another call to the conceptualization of the decision-making process.

As cited earlier in this paper, Wolfe has urged that mobility be accorded a central place in the structuring of recreation study. How does mobility affect participation rates in various specific activities? Are some forms of recreation more dependent on mobility and accessibility than others for a given level of participation (how this level would be determined and measured is another problem entirely). In other words, does there exist a phenomenon that could be called mobility elasticity analogous to price and income elasticities?

A number of researchers have considered distance to be a dependent variable. How does distance and accessibility vary with perception? This question is broadly called the phenomenon of mental mapping. Do mental maps exist and are they operative? How much coherency is there between each individual map and reality and between the individual maps themselves, especially over time? A few have examined the question but more remains to be done. Is there a directional bias in recreational travel that can be explained by the perceived structure of the urban and rural environment and in particular by the perception of the road networks?

The gravity model has been frequently used in developing demand models that have been only partially successful. Wolfe's suggestion of a utility of distance for long-range trips and perhaps for sightseeing may prove to be a very useful concept. He has suggested that the conceptual model of this pehnomenon be called a "momentum model." Stouffer suggested

that the gravity model be scrapped for a model relating attraction of a destination to the number of intervening opportunities between the origin of the tourist and the given destination. Perhaps this should be modified much the same way as Wolfe has modified the gravity model. Catton feels that intervening opportunities may act as stepping stones for migration. And while migration has been often considered to be only a change in residence, Zelinsky advises that the study of migration must also include "circulation" or temporary migration such as travel to work, school and play. He has developed a paradigm for the transition in mobility with the modernization process that may have some interesting implications for the future levels of recreation travel. There may be an analogous transition in mobility through an individual's lifetime that could be identified. The possibility certainly urges further examination.

The social scientist who addresses himself to the problem of recreation research has a wide variety of questions to answer. There appears to be several broad intellectual paradigms around which his answers can revolve: (1) the concept of true significance in the spatial patterns of recreation behavior and development, (2) certain laws of migration and circulation theory, some of which involve (3) the principle of economic optimization by the individual and society. This also involves (4) variations and the significance in the perceptions of the utility of sites and their accessibility. Underlying these four is (5) the philosophical and social significance of leisure and recreation and their bearing on and their relationship to all human activity.

APPENDIX

RESEARCH THRUSTS IN OUTDOOR RECREATION

A. Geographic - micro (local and regional patterns) and macro (national and international patterns)

1. Field work (traverse, interview, land-use survey)

a. Aestehtics of landscape - perception of beauty in terms of physical environment, wilderness, development

b. Site attraction in terms of natural environment
   1) Climate
   2) Landforms
   3) Water - type of body, shores and beaches, pollution
   4) Vegetation - general type, "naturalness"
   5) Unusual scenery - caves, geysers, waterfalls, cliffs, vistas

c. Site attraction in terms of man-made environment
   1) Recreation opportunities - sightseeing, boating, camping, fishing, swimming, hiking, playground equipment, picnicking, etc.
   2) Location in terms of market - resource - user-oriented or intermediate; hinterlands for vacationists, recreationists, surrounding land-use

d. Intensity of participation by inhabitants of cities
   1) Type of city - transportation, manufacturing, administrative, etc.
   2) Size of city
   3) Site and situation

e. Intensity of use of various types of facilities - national and state parks, municipal parks, tot lots, resorts, hotels and motels, summer dormitories, privately-owned cottages and camp-sites, etc.

2. Gathering and analysis of statistical data

a. Recreational Travel
   1) Migration theory - push-pull, interaction models, intervening opp., "stepping stones," mental maps, mean information fields
   2) Spatial behavior in recreation
   3) Recreational hinterlands
   4) Effects of new highways and bridges; changes in any form of transportation; and tolls on patterns and hinterlands
   5) Traffic patterns on recreational highways
   6) Needs and transportation characteristics of various types of areas with emphasis on trip generating patterns
   7) Importance of mobility; future trends in mobility

b. Tourist industry
   1) Survey of tourism in specific regions
   2) Application of location theory to recreational facilities
   3) Place of the urbanized summer resort in the central place hierarchy

c. Projection of recreational needs and demands for specific regions
   1) Extrapolation of past trends
   2) Simulation models

d. Propagation of innovation waves of recreation architecture, easements, the "national park ethic;" surveys of variations in parks and their facilities, in architectural differentiation

B. Economic, political, sociological

1. Obtaining and financing recreational projects - taxes, bonds; deciding priorities in resource allocation

2. Implication of recreational travel across borders, particularly international boundaries

3. Multiple use projects

4. Benefit-cost analysis

5. Planning and administering public and private facilities, especially pricing

6. Optimal roles of public and private recreational facilities

7. Supply-demand studies of recreation

   a. Considering it a quasi-market situation
      1) Effects of distance (transport costs)

   b. Socio-economic factors affecting demand

   c. Consideration given to propensity to recreate - plan to satisfy the casual majority or the zealous minority?

8. Effects of recreation on the individual and methods of evaluating it

   a. Human needs

   b. Role in mental health treatment and maintenance

   c. Religious ends

9. Philosophical and ethical considerations (including aesthetics and ecology)

10. Historical development of various facets of the outdoor recreation field

11. Effects of recreation development on regions; economic multipliers

12. Effects of institutional factors such as personal liability, taxes, health regulations, zoning on the use of resources for recreation

13. Economics of scale in private recreation operations which are profit oriented

14. Incentives involved and benefits received by operators of very small recreation operations which are not profit oriented

15. Use of fees and other costs in controlling resource utilization

16. Physical and social accessibility of suburban parks to inner-city residents

17. Encouraging private investors to invest in recreation enterprises
18. Training in appreciation of the environment, especially in preventing vandalism; the use of an appreciation test to limit usage of very heavily used facilities; appreciation in urbanized individuals, especially inner-city residents

C. Miscellaneous

1. Biological studies - requirements in wildlife preserves such as food, presence of man, ranges; species surveys and species of plants that will withstand heavy use; wildlife management; needs of and effects of hunters and fishermen; ecological analysis of a park or proposed development in a park
2. Engineering feasibility studies for various projects (roads, dams, etc.), design studies and studies of site characteristics to optimize user satisfaction
3. Capacity of outdoor areas and facilities - economic, protection of resources, control to achieve goals
4. Nature of aesthetic appreciation of a setting - importance in the initial selection and investing, satisfaction generated by natural and natural-appearing but artificial landscapes, importance in enjoyment and satisfaction, variation among various socio-economic and activity groups, human attitudes towards areas -- analogous to exploitation of timber resources; future cultural shifts -- towards or away from greater privacy (role of recreation and travel in achieving this)

FOOTNOTES

1. Thoreau, Henry David, Walden, A. L. Burt Co., New York, p. 101.

2. Brown, Robert E., "The Business of Recreation," Geographical Review, Vol. 25, 1935, p. 471.

3. Deasy, George, "The Tourist Industry in a North Woods County," Economic Geography, Vol. 25, 1949, p. 240.

4. Clawson, Marion and Knetsch, J. L., Economics of Outdoor Recreation, Baltimore, John Hopkins Press, 1966, Chap. 2.

5. Wolfe, Roy I., "About Cottages and Cottagers," Landscape, Vol. 15, No. 1, 1968, pp. 6-8.

6. Gans, Herbert, "Outdoor Recreation and Mental Health" in ORRRC Study Report 22, Trends in American Living and Outdoor Recreation, USGPO, Washington, D. C., 1963, pp. 234-242.

7. Wingo, Lowden, "Recreation and Urban Development: A Policy Perspective," Annals of the American Academy of Political and Social Science, Vol. 352, pp. 729-240.

8. van Der Smissen, Betty, Recreation Research, a chap. on "Effects of Recreation on Individuals and Society," Washington, D. C., Dept. of National Education Association, 1966.

9. Sessoms, H. Douglas, Recreation Research, a chapter on "Measuring Recreation in Terms of Socialization and the Mental Health of the Individual," Washington, D. C., Dept. of the National Education Association, 1966.

10. Dubos, R., "The Human Environment," Ekistics, Vol. 178, 1969, pp. 170-173.

11. Milgram, S., "The Experience of Living in Cities," Science, Vol. 167, pp. 1461-1468.

12. Nagashima, K., "Future Urban Environment: Evolution of Social and Leisure Space With Reference to Japan," Ekistics, Vol. 168, 1970. pp. 218-222.

13. Wolpert, J., "Migration as an Adjustment to Environmental Stress," The Journal of Social Issues, Vol. 22, No. 4, 1966, pp. 92-102.

14. Ullman, Edward L. and Volk, Donald J., "An Operational Model for Predicting Reservoir Attendance and Benefits," Papers of the Michigan Academy of Science, Arts and Letters, Vol. 47, 1962, pp. 473-484.

15. Van Doren, Carlton S., "A Recreational Travel Model for Predicting Campers at Michigan State Parks," unpublished Ph.D. dissertation, Department of Geography, Michigan State University, 1966.

16. Lucas, Robert, Recreational Use of the Quetico-Superior Area, Lakes States Forest Experiment Station Research Paper LS-8, 1964.

17. Lucas, Robert, "Wilderness Perception and Use," Natural Resources Journal, Vol. 3, No. 3, January, 1964, pp. 393-411.

18. Hecock, H. H., "Public Beach Recreation Opportunities and Patterns of Consumption on Cape Cod," unpublished Ph.D. dissertation, Dept. of Geography, Clark University, 1966.

19. Lentnek, Barry, et. al., "Spatial Behavior in Recreational Boating," Journal of Leisure Research, Vol. 1, Spring 1969, pp. 103-124.

20. Van Doren, Carlton S. and Lentnek, Barry, "Activity Specialization Among Ohio's Recreation Boaters," Journal of Leisure Research, Vol. 1, Autumn 1969, pp. 296-315.

21. House, R., "Demographic and Ecological Changes as Factors in Outdoor Recreation," Trends in American Living and Outdoor Recreation, ORRRC Study Report No. 22, Washington, D. C., pp. 27-60.

22. Swigel, Erwin O., Work and Leisure: A Contemporary Social Problem, College and University Press, New Haven, 1963.

23. Barker, M. L., "The Perception of Water Quality as a Factor in Consumer Attitudes and Space Preferences in Outdoor Recreation," paper presented at the Annual Meeting of the Association of American Geographers, Washington, D. C., August, 1968.

24. Hecock, H. H., op. cit.

25. Harvey, D., "Conceptual and Measurement Problems in the Cognitive-Behavioral Approach to Location Theory," in Cox, Kevin R., and Golledge, Reginald, (Editors), Behavioral Problems in Geography, Northwestern University Studies in Geography, No. 17, Northwestern University, 1969, pp. 35-68.

26. Mercer, David, "Discretionary Travel Behavior and the Urban Mental Map," Australian Geographic Studies, October, 1971.

27. O'Riordan, T., "Planning to Improve Environmental Capacity: A Case-Study in Broadland," Town Planning Review, Vol. 40, No. 1, 1969, pp. 39-58.

28. Deasy, G. F. and Griess, P. R., "Impact of a Tourist Facility on its Hinterland," Annals of the Association of American Geographers," Vol. 56, No. 2, 1966, pp. 290-306.

29. Crevo, Charles C., "Characteristics of Summer Weekend Travel," Highway Research Record, Vol. 44, 1963, pp. 51-60.

30. Wennergren, E. Boyd and Nielsen, Darwin B., A Probabilistic Approach to Estimating Demand for Outdoor Recreation, Bulletin 478, Dec. 1968, Utah State University, Logan, Utah.

31. Van Doren, op. cit.

32. Ellis, Jack B., "Analysis of Socio-Economic Systems by Physical Systems Techniques," unpublished Ph.D. dissertation, Dept. of Electrical Engineering, Michigan State University, 1965.

33. Chubb, Michael, Outdoor Recreation Planning in Michigan by a Systems Analysis Approach, Part III - The Practical Application of "Program RECSYS" and SYMAP, Technical Report No. 11, Department of Resource Development, Michigan State University, 1968.

34. Wolfe, R. I., Parameters of Recreational Travel in Ontario - A Progress Report, Ontario Department of Highways, Report No. RBIII, 1966.

35. Ellis, Jack B., A Systems Model for Recreational Travel in Ontario, DHP Report No. RR 126, 1967.

36. _____, Systems Analysis at Provincial Park Camping, Parks Branch, Ontario Department of Lands and Forests, 1968.

37. Stouffer, Samuel A., "Intervening Opportunities and Competing Migrants," Journal of Regional Science, Vol. 2, 1960, pp. 1-26.

38. Ullman and Volk, op. cit.

39. Catton, W. R., "Intervening Opportunities: Barriers or Stepping Stones?" Pacific Sociological Review, Vol. 8, 1965, pp. 75-81.

40. MacArthur, Robert H. and Wilson, Edward O., The Theory of Island Biogeography, Princeton University Press, Princeton, New Jersey, 1967.

41. Olsson, Gunnar, Distance and Human Interaction, Regional Science Research Institute, Bibliography Series No. 2, 1964.

42. Wolfe, R. I., "Vacation Homes and the Gravity Model," Ekistics, Vol. 174, 1970, pp. 352-363.

43. _____, "Communication," Journal of Leisure Research, Vol. 2, No. 1, 1970, pp. 85-87.

44. Lentnek, et. al., op. cit.

45. Wolfe, R. I., op. cit., 1966.

46. Rengert, A. C., Factors Related to Vacation Behavior, unpublished M.A. Thesis, The Ohio State University, Columbus, Ohio, 1970.

47. Webber, M., "Culture, Territoriality and the Elastic Mile," Papers of the Regional Science Association, Vol. 13, pp. 59-69.

48. Lansing, J., "The Effects of Migration and Personal Effectiveness on Long Distance Travel," Transportation Research, Vol. 2, No. 4, pp. 329-338.

49. Mercer, David, op. cit., 1971.

50. Campbell, Colin K., "An Approach to Research in Recreational Geography," British Columbia Geographical Series, No. 7, 1966, pp. 85-90.

51. _____, Ibid., p. 87.

52. Mercer, D. C., "Urban Recreational Hinterlands," Vol. 22, March 1970, pp. 74-78, The Professional Geographer.

53. An abstract of this paper can be found in the AAAG, March 1967, pp. 167-168.

54. LaPierre, R., "Aspects Géographiques du Tourisme à Montreal," Cahiers de Géographie de Quebec, No. 6, 1959, pp. 295-303.

55. Cracknell, B., "Accessibility to the Countryside as a Factor in Planning for Leisure," Regional Studies, Vol. 1, p. 50.

56. Mercer, op. cit., p. 77.

57. Wolfe, R. I., Parameters of Recreational Travel in Ontario, Dept. of Highways, Ontario, Report No. RB111, March, 1966.

58. Wolfe, Ibid., p. 11.

59. Tiedmann, C. E., Michigan Outdoor Recreation Demand Study, preliminary draft of Park II, "Demand Factors," Chapter V, "Transportation Factors," 1965.

60. Clawson and Knetsch, op. cit.

61. Van Doren, op. cit.

62. Ullman and Volk, op. cit.

63. Lentnek, Van Doren and Trail, op. cit.

64. Wingo, Lowden, "Recreation and Urban Development: A Policy Perspective," Annals of the American Academy of Political and Social Science, Vol. 352, 1964, pp. 129-140.

65. See the ORRRC Study Reports Nos. 19 (National Recreation Survey) and 20 (Participation in Outdoor Recreation). Another study, for a specific area, is George Owens' "Factors Affecting Demand for Outdoor Recreation," unpublished Ph.D. dissertation, Dept. of Agricultural Economics and Rural Sociology, Ohio State University, 1968.

66. Owens, Ibid., p. 75.

67. Williams, A. and Zelinsky, W., "On Some Patterns in International Tourist Flows," Economic Geography, Vol. 46, No. 4, 1970, pp. 549-567.

68. Mitchell, Lisle Serles, "The Facility Index as a Measure of Attendance at Recreation Sites," The Professional Geographer, Vol. 20, No. 4, 1968, pp. 276-278.

69. Leopold, Luna B., "Esthetics of Landscape," Natural History Magazine, Vol. 78, No. 4, October 1969, p. 37-44.

70. Shafer, Elwood L., "Perception of Natural Environments," Environment and Behavior, June 1969.

71. Shafer, E. L. and Thompson, R. C., "Models that Describe Use of Adirondack Campgrounds," Forest Service, Vol. 14, December, 1968, pp. 383-391.

72. Shafer and Thompson, Ibid., p. 76.

73. An excellent discussion of this method can be found in H. H. Harmon, Modern Factor Analysis, Chicago, University of Chicago Press, 1960.

74. Van Doren, op. cit.

75. Shafer and Thompson, op. cit.

76. Lucas, op. cit., p. 111.

77. Earickson, Robert J. and Murton, Brian J., Preferred Environments and Spatial Behavior in an Area of Urban-Rural Transition: The Kona Coast," Proceedings of the Association of American Geographers, Vol. 2, 1970, pp. 52-55.

78. Sonnenfeld, Joseph, "Variable Values in Space Landscape: An Inquiry into the Nature of Environmental Necessity," The Journal of Social Issues, Vol. 22, No. 4, 1966, pp. 71-82.

79. Reid, Leslie M., "Utilizing User Preferences in Predicting Outdoor Recreation Demand," Recreation Research, Washington, D. C., Department of the National Education Association, 1966, pp. 86-93.

80. Mercer, David, "Role of Perception in the Recreation Experience: Review and Discussion," unpublished manuscript, Monash University, Victoria, Australia, 1971.

81. Hall, Edward T., The Hidden Dimension, Doubleday & Co., 1969.

BIBLIOGRAPHY

1. Adams, R. L., The Demand for Wilderness Recreation in Algonquin Provincial Park, Unpublished M.A. Thesis, Clark University, Worcester, 1966.

2. Adams, J. S., "Directional Bias in Intra-Urban Migration," Economic Geography, 45, 4, pp. 302-323, 1969.

3. Alden, H. R., Characteristics and Preferences of Recreationists in Selected Northern Idaho State Parks, Forestry, Wildlife, and Range Experiment Station, Note 1, University of Idaho, Moscow, 1965.

4. Aldskogius, H., "Vacation House Settlement in the Siljan Region," Geografiska Annaler, 49B, 2, pp. 69-95, 1967.

5. American Association for Health, Physical Education and Recreation, Recreation Research, Washington, D. C., National Education Association, 1965.

6. American Forestry Association, The Muskingum Story, Washington, 1951.

7. Anderson, D. M., "The Geographical Basis of Recreation with Special Reference to the London, Ontario, Day-Trip-Zone," unpublished M.A. thesis at the University of Western Ontario, Dept. of Geography, 1959.

8. Anderson, Kenneth R. and Williams, Wayne, A User-Resource Recreation Planning Method, National Advisory Council on Regional Recreation Planning, Loomis, California, 1959.

9. Appleyard, Donald; Lynch, Kevin and Meyer, John R., The View From the Road, Cambridge, 1963.

10. Astor, William and Charlott, "Recreation in the Age of Automation," Annals of the American Academy of Political and Social Science, vol. 313, Sept. 1957.

11. Audience Research Incorporated, A Study of the Outdoor Recreational Activities and Preferences of the Population Living in the Region of the Delaware River Basin, Princeton, New Jersey.

12. Baker, W. M., "Assessing and Allocating Renewable Resources for Recreation," Resources for Tomorrow: A Report to the Dept. of Northern Affairs and Natural Resources, Montreal, October 23-29, 1961.

13. _____, et. al., "Resort and Recreation Planning," Planning, 1959, 95-122.

14. Barker, M. L., "The Perception of Water Quality as a Factor in Consumer Attitudes and Space Preferences in Outdoor Recreation," Paper presented at the Annual Meeting of the Association of American Geographers, Washington, D. C., August, 1968.

15. Barlowe, Raleigh, Land Resource Economics, Englewood Cliffs, New Jersey, Prentice-Hall, 1958.

16. _____, "Land for Recreation" in Ottoson, Howard (ed) Land Use Policy and Problems in the United States, Lincoln, Nebraska, University of Nebraska Press, 1963.

17. Barratt, F. A., "The Recreational Potential of Niagara," unpublished M.A. thesis at the University of Toronto, Dept. of Geography, 1958.

18. Beesley, M. E., "The Value of Time Spent in Travelling: Some New Evidence," Economics (N.S.) 32, pp. 174-185, 1965.

19. Bigelow, L. E., Survey of Expenditures of 1949 Summer Vacationers in Massachusetts, Massachusetts Development and Industrial Commission, Boston, 1950.

20. Bodsworth, Fred, "Beauty and the Buck: A Holiday Trip Through Our Magnificient National Parks," Maclean's, Toronto, March 23, 1963, 24-25 and 41-45.

21. Boan, J. A., "The Significance of Reservoirs in Recreation," vol. 2, "Background Papers" of the Resources for Tomorrow Conference. Ottawa, 1961, 1003-1008.

22. Booth, Alfred W., The Lakes of the Northeastern Inland Empire: A Study of Recreational Sites, Bureau of Economics and Research, vol. 5, Pullman, Washington, 1948.

23. _____, "Geographic Methodology and Techniques in a Recreational Survey," Professional Geographer, vol. 8, December 1948, 41-45.

24. Borg, Alan C., "Vacation Houses: Fun for All Seasons," American Home, vol. 66, June 1963, 23-33.

25. Bourke, Kathleen, "Lake Simcoe: Explanation and Pattern of Recreational Use," B.A. thesis at the University of Toronto, Dept. of Geography, 1962-1963.

26. Brancher, D., "Traffic in Scenic Areas - The User-Road Relationship," Journal of the Town Planning Institute, 546, pp. 271-274.

27. Brewer, Durward and Gillespie, Glenn A., Socioeconomic Factors Affecting Participation in Water-Oriented Outdoor Recreation, USDA, ERS-403, USGPO, Washington, D. C.

28. Brewster, S. F., "Park Appeal," Planning and Civic Comment, October-December 1937.

29. Briere, R., "Les Cadres d'Une Geographic Touristique du Quebec," Cahiers du Geographie de Quebec, No. 11, October 1961 - March 1962.

30. Brightbill, Charles, Challenge of Leisure, Englewood Cliffs, N. J., Prentice-Hall, 1963.

31. _____, Man and Leisure: A Philosophy of Recreation, New York, Prentice-Hall, 1961.

32. _____, Recreation: Text and Readings, New York, Prentice Hall, 1953.

33. Brockman, C. Frank, Recreational Use of Wild Lands, New York, McGraw-Hill, 1959.

34. Brooks, Lloyd, "The Forces Shaping Demand for Recreation Space in Canada" in "Background Papers" vol. 2, of the Resources for Tomorrow Conference, Ottawa, 957-968.

35. Brown, L. A., Horton, F. E. and Wittick, R. I., "On Place Utility and the Normative Allocation of Intra-Urban Migrants," Demography, 7, 2, pp. 175-183, 1970.

36. Brown, L. A. and Moore, E. G., "The Intra-Urban Migration Process: A Perspective," Geografiska Annaler, 52B, 1, pp. 1-13, 1970.

37. Brown, R. M., "The Business of Recreation," Geographical Review, vol. 25, 1935, 467-475.

38. Browne, Thomas B., "A Concept of Total Recreation In Community Development," Urban Land, vol. 22, No. 3, 1963.

39. Buerle, D. E., "Social Hinterlands of New York City and Boston in Southern New England." Paper presented at the 62nd annual meeting of the Association of American Geographers. Abstract in A.A.A.G., March 1967, 167-168.

40. Bultena, G. L. and Klessig, L. L., "Satisfaction in Camping: A Conceptualization and Guide to Social Research," Journal of Leisure Research, 1, 4, pp. 348-354, 1969.

41. Bultena, G. L. and Taves, M. J., "Changing Wilderness Images and Forestry Policy," Journal of Forestry, 59, pp. 167-171, 1961.

42. Burch, W. R., A New Look at an Old Friend - Observation as a Technique for Recreation Research, USDA Forest Service, Pacific Northwest Forest and Range Experiment Station, 1964.

43. Burch, William R., "The Play World of Camping: Research into the Social Meaning of Outdoor Recreation," American Journal of Sociology, vol. 70, No. 5, March 1965, 604-612.

44. Bureau of Governmental Research and Services, Standards of Recreational Facilities, University of Washington, 1947.

45. Business Week, July 28, 1962. "Udall's Job as Big as All Outdoors," 76-77, 80-82.

46. Butler, George D., Standards for Municipal Areas, 1962.

47. _____, Introduction to Community Recreation, New York, McGraw Hill, 1959.

48. _____, "Recreation Area Standards," Recreational Magazine, vol. 56, January 1963, 29-33.

49. _____, Playgrounds: Their Administration and Operation, New York, Roland Press, 1960.

50. California Dept. of Public Works. Report of a Preliminary Plan for Scenic Highways, Sacramento, 1962.

51. California Division of Highways, Aesthetic Considerations in Planning and Design of Scenic Highways, Sacramento, 1964.

52. Campbell, Colin K., "An Approach to Research in Recreational Geography," B. C. Geographical Series, No. 7, 1960.

53. Campbell, F. L., Hendee, J. C. and Clark, R., "Law and Order in Public Parks," Parks and Recreation, 3, pp. 28-31; 51-55, 1968.

54. Campbell, Robert D., "The Geography of Recreation in the United States," unpublished Ph.D. dissertation, Clark University, Dept. of Geography, 1949.

55. Carlson, A. S., "The Recreational Industry of New Hampshire," Economic Geography, vol. 14, 1938, 255-270.

56. Carlson, Reynold E., "A Research Program in Outdoor Recreation Activities," Parks and Recreation, vol. 46, 1963, 278-280.

57. Carroll, J. D., "The Relation of Homes to Work Places and the Spatial Pattern of Cities," Social Forces, 30, pp. 271-282, 1952.

58. Catton, W. R., "Intervening Opportunities: Barriers or Stepping Stones?," Pacific Sociological Review, 8, pp. 75-81, 1965.

59. Catton, W. R., "Motivations of Wilderness Users," Pulp and Paper Magazine of Canada, Dec. 19, pp. 121-126, 1969.

60. Christaller, Walter, "Some Considerations of Tourism in Europe: The Peripheral Regions - Underdeveloped Countries - Recreation Areas," Papers and Proceedings of the Regional Science Association, vol. 12, 95-105.

61. Clarke, Alfred C., "The Use of Leisure and its Relation to Social Stratification," unpublished Ph.D. dissertation, The Ohio State Univ.

62. Clawson, Marion, Land and Water for Recreation, Chicago, Rand McNally, 1963.

63. _____, Land and Water for Recreation - Opportunities, Problems and Policies, Resources for the Future Policy Background Series, Rand McNally, Chicago.

64. _____, "The Crisis in Outdoor Recreation," American Forests, March-April, 1959.

65. _____, Methods of Measuring the Demand for and the Value of Outdoor Recreation, Resources for the Future, Reprint No. 10, Washington, D. C., 1959.

66. _____, The Dynamics of Park Demand, New York, Regional Plan Association, Bulletin No. 94, 1960.

67. _____, "Future Land Use and Tenure Problems Requiring Research in Land Economics," Papers Presented at a Symposium Held at Lincoln, Nebraska, June 16-23, 1961, under the joint sponsorship of Farm Foundation and Resources for the Future.

68. _____, "Implications of Recreational Needs for Highway Improvements," Highway Research Board Bulletin 311, 1962, 31-38.

69. _____, "Land for Recreation," in Land for the Future by Clawson et. al., Resources for the Future, Johns Hopkins Press, Baltimore, 1960.

70. _____, "Our National Parks in the Year 2000," National Parks Magazine, vol. 33, No. 142, 1959, 2-7,11.

71. _____, Planning and Managing a System of Parks for the Nation, Resources for the Future, Washington, 1962.

72. _____, "A Positive Approach to Open Space Preservation," Journal of the American Institute of Planners, vol. 28, 1962, 124-129.

73. _____, Recreation as a Claimant of Water, Resources for the Future, Washington, 1962.

74. _____, "Statistical Data Available for Economic Research on Certain Types of Recreation," Journal of the American Statistical Association, vol. 54, 1959, 281-309.

75. _____, Statistics on Outdoor Recreation, Resources for the Future, Washington, 1958.

76. _____ and Held, Burnell, The Federal Lands: Their Use and Management, Resources for the Future, Johns Hopkins Press, Baltimore, 1957.

77. _____, "Land for Americans: Trends, Prospects and Problems," Resources for the Future Policy Background Series, Rand McNally, Chicago, 1963.

78. _____ and Knetsch, Jack, Economics of Outdoor Recreation, Johns Hopkins Press, Baltimore, 1966.

79. _____ and _____, Outdoor Recreation Research: Some Concepts and Suggested Areas of Study, Resources for the Future Reprint 43, Washington, November 1963.

80. Colenutt, R. J., "Modelling Travel Patterns of Day Visitors to the Countryside," Area, 2, pp. 43-47, 1969.

81. Cook, J. A., "Gardens on Housing Estates - A Survey of User-Attitudes and Behavior on Seven Lay-Outs," Town Planning Review, 39, 3, pp. 217-234, 1968.

82. Coughlin, R. E. and Goldstein, K. A., "The Public's View of the Outdoor Environment as Interpreted by Magazine Ad-Makers," Regional Science Research Institute Discussion Paper Series No. 25, 1968.

83. Coughlin, R. E. and Goldstein, K. A., "The Extent of Agreement Among Observers on Environmental Attractiveness," Regional Science Research Institute Discussion Paper Series, No. 37, 1970.

84. Cracknell, B., "Accessibility to the Countryside as a Factor in Planning for Leisure," Regional Studies, vol. 1.

85. Craik, K. H., "The Comprehension of the Everyday Physical Environment," Journal of the American Institute of Planners, XXXIV, 1, pp. 29-37.

86. Crary, Douglas, "A Geographer Looks at the Landscape," Landscape, vol. 9, No. 1, Autumn, 1959, 22-25.

87. Crevo, Charles C., "Characteristics of Summer Weekend Recreational Travel," Highway Research Record, No. 44, 1963, 51-60.

88. _____ and Southworth, Bradford, "1965 Summer Outdoor Recreation Demand and Travel Inventories," Technical Paper No. 8 of the Rhode Island Comprehensive Transportation and Land Use Planning Program, 1966.

89. Cutler, Richard Oscar, "Amelia Island, Florida: A Geographic Study of Recreational Development," unpublished Ph.D. dissertation, University of Florida, 1965.

90. Dahle, Thomas L., Michigan State Park Users Survey, 1956, Bureau of

Business Research, College of Business and Public Service, Research Report No. 19, East Lansing, Michigan State University, 1956.

91. Daiute, Robert J., "Methods for Determination of Demand for Outdoor Recreation," Land Economics, vol. 42, No. 3, August, 1966, 327-338.

92. Danford, Howard, Recreation in the American Community, New York, Harper, 1953.

93. Davis, John Tait and Ames, David Lyndle, Parkway Impact Study: An Investigation of the Effects of Parkways in the National Capital Region, George Washington University, 1962.

94. Deasy, G. F., "The Tourist Industry of a Northwoods County," Economic Geography, vol. 25, 1949, 240-249.

95. Deasy, G. F. and Griess, P. R., "Impact of a Tourist Facility on its Hinterland," Annals of the Association of American Geographers, 56, 2, pp. 290-306, 1966.

96. De Grazia, Sebastian, Of Time, Work and Leisure, New York, Twentieth Century Fund, 1962.

97. Dewhurst, J. Frederick, America's Needs and Resources: A New Survey, New York, Twentieth Century Fund, 1955.

98. _____, "Consumption Levels and Patterns" in Europe's Needs and Resources, Twentieth Century Fund, New York, 1961, chp. 5.

99. Dobbins, Florence G., The Sociology of Play, Recreation and Leisure, Dubuque, Wm. C. Brown Co., 1955.

100. Doherty, P. A., Camping In Florida: A Methodology for Determining the Economic Impact and User-Preferences of Family Campers, Unpub. M.Sc. Thesis, Florida State University, 1967.

101. Dominion Bureau of Statistics, "Travel Between Canada and Other Countries," Ottawa, annually.

102. Donahue, Wilma and associates, Free Time: Challenge to Later Maturity, Ann Arbor, University of Michigan Press, 1958.

103. Doody, Francis S., "Newport - the Next Resort" Business Review, Boston University, vol. 9, No. 2, Winter, 1962-1963, 9-19.

104. Downs, R., "The Cognitive Structure of an Urban Shopping Center," Environment and Behavior, 2, 1, pp. 13-39, 1970.

105. Dubos, R., "The Human Environment, Ekistics, No. 178, pp. 170-173, 1969.

106. Earkkson, Robert and Murton B., "Preferred Environments and Spatial Behavior in an Area of Rural-Urban Transition: The Kona Coast," Proceedings AAG, San Francisco, 1970, vol. 2, 52-55.

107. Ellis, Jack B., "The Description and Analysis of Socio-Economic Systems by Physical Systems Techniques," unpublished Ph.D. dissertation, Dept. of Electrical Engineering, Michigan State University, 1965.

108. _____, Outdoor Recreation Planning in Michigan by a Systems Analysis Approach: Part 1-A Manual for Program RECSYS, Lansing, State Resource Program, Michigan Dept. of Commerce, May 1966.

109. _____ and Van Doren, C. S., "A Comparative Evaluation of Gravity and Systems Theory Models for Statewide Recreational Traffic Flows," Journal of Regional Science, XI, No. 2, Winter, 1966, 57-70.

110. Emmet, I., "Sociological Research in Recreation," in Burton, T. L. (Ed.) Recreation Research and Planning, George Allen and Unwin Ltd., London, pp. 65-77, 1970.

111. Enright, T Jerome, A Study of Private Enterprise in Outdoor Recreation, St. Paul, Minnesota, Outdoor Recreation Resources Commission, 1965.

112. Etter, Alfred, "Mathematics, Ecology and a Piece of Land: The Illusion of Predictability," Landscape, vol. 12, No. 3, 28-31.

113. Etzkorn, K. P., "Leisure and Camping - The Social Meaning of a Form of Outdoor Recreation," Sociology and Social Research, 49, 1, pp. 76-89, 1964.

114. Evans, John S. and Van Doren, C. S., "A Measurement of the Demand for Recreational Facilities at Lewis and Clark Lake," South Dakota Business Review Supplement, Vermillion, School of Business, State University of South Dakota, Febraury, 1960.

115. Farb, Peter, Face of North America: The Natural History of a Continent, Harper and Row, New York, 1963.

116. Farina, J., "The Social and Cultural Aspects of Recreation" in "Background Papers," RFTC, vol. 2, Ottawa, 1961, 941-950.

117. Firey, W., Man, Mind and Land: A Theory of Resource Use, New York, Free Press of Glencoe, 1960.

118. Fisher, Hugo, "Urban America's Demand for Recreation" in "County Parks and Recreation" published by the National Association of Counties and the National Recreation Association, 1965.

119. Foscue, E. J., Gateway to the Great Smokies, Dallas, Texas, 1946; idem. Taxco: Mexico's Silver City, Dallas, Texas 1947; Foscue and Quam, Estes Park: Resort in the Rockies, Dallas, 1949.

120. Frissell, Sidney S., "Campsite Preference and Deterioration in the Quetico-Superior Canoe Country," Journal of Forestry, vol. 63, 1965, 256-260.

121. Furmidge, J., "Planning for Recreation in the Countryside," Journal of the Town Planning Institute, vol. 55, No. 2, 1969, 62-67.

122. Gans, H., "Outdoor Recreation and Mental Health," in ORRRC Study Report 22 (Trends in American Living and Outdoor Recreation), Government Printing Office, Washington, D. C., pp. 234-242, 1962.

123. Geographical Magazine, The, "Our National Parks," 43, 4, pp. 294-295, 1971.

124. Gibson, E., "The Lake Erie Parkway," unpublished B.A. thesis, Dept. of Geography, University of Western Ontario, 1959.

125. Gilbert, Alphonse H., "A Survey of Vacation Camping in Iron County, Michigan," unpublished M.A. thesis, Dept. of Resource Development, Michigan State University, 1963.

126. Glikson, Artur, "Recreational Land Use" in Thomas, William (ed) Man's Role in Changing the Face of the Earth, University of Chicago Press, 1956.

127. Golledge, R., "Process Approaches to the Analysis of Human Spatial Behavior," Discussion Paper, Ohio State University Department of Geography (mimeo), 1970.

128. Greeley, R. B., "Part-Time Farming and Land Use in New England," Economic Geography, vol. 18, 1942, 145-152.

129. Gunn, Clare A., A Concept for the Design of a Tourism-Recreation Region, Mason, Michigan, The B. J. Press, 1965.

130. Hall, P., "Urbanization of the British Countryside" in Darling and Milton (eds) Future Environments of North America, Natural History Press, Garden City, New York, 1966.

131. Halt, Paul K. and Reins, Albert J. (eds), Reader in Urban Sociology. See Denney and Reisman, "Leisure in Urbanized America," 470-480.

132. Hansen, Walter G., "How Accessibility Shapes Land Use," Journal of the American Institute of Planners, XXV, No. 2, 67-76.

133. Hardy, Eric and McGilly, Frank, "The Hierarchy of Government and Public Agencies in Park Development" in "Background Papers," RFTC, vol. 2, Ottawa, 1961, 1037-1046.

134. Hargrave, R., "Recreational Land Use on the Shore of Lake Erie in Welland and Haldimand Counties," unpublished B.A. thesis, Dept. of Geography, University of Toronto, 1959.

135. Harrison, J. D., An Annotated Bibliography on Environmental Perception, with Emphasis on Urban Areas, Council of Planning Libraries, Monticello, Illinois, 1969.

136. Hart, John Fraser, "The Three R's of Rural Northeastern United States," Canadian Geographer, vol. 7, 1963, 13-22.

137. Havighurst, R. J., "Leisure Activities of the Middle Aged," American Journal of Sociology, LXIII, 2, pp. 152-162, 1957.

138. Haythorn, W. H., "A 'Needs' by 'Sources of Satisfaction' Analysis of Environmental Habitability," Ekistics, 178, pp. 200-202, 1970.

139. Hecock, Richard D., "Public Beach Recreation: Opportunities and Patterns of Consumption on Cape Cod," unpublished Ph.D. dissertation, Dept. of Geography, Clark University, 1966.

140. Hedrick, W. O., Recreational Use of Northern Michigan's Cut-Over Lands, Agriculture Experiment Station, Michigan State College, Special Bulletin 247, East Lansing, 1934.

141. Hendee, J. C., "Rural-Urban Differences Reflected in Outdoor Recreation Participation," Journal of Leisure Research, 1, 4, pp. 333-341, 1969.

142. Hennessey, William J., Vacation Houses, Harper and Row, New York, 1962.

143. Highsmith, Richard M., Jr., (ed), Case Studies in World Geography: Occupance and Economy Types, Prentice-Hall, Englewood Cliffs, N. J., 1961, 155-169.

144. Hines, Lawrence G., "Measurement of Recreation Benefits: A Reply," Land Economics, August, 1958, 365-367.

145. Hodges, S., Recreation Property in New Hampshire, New Hampshire State Planning and Development Commission, Concord, 1948, 1949.

146. Hornsby-Smith, M. P., "Planning and Camping," Town Planning Review, 41, 3, pp. 223-236, 1970.

147. Huizinger, Johan, Homo Ludens: A Study of the Play Element in Culture, trans. by R. F. C. Hull, London, 1949.

148. Hutchins, H. Clifton and Trecker, Edgar W., The State Park Visitor, Technical Bulletin No. 22, Madison, Wisconsin, Conservation Dept., 1961.

149. Huth, H., Nature and the Americans, Berkeley, University of California Press, 1957.

150. Hyde, Martin, "Economic Aspects of Recreational Land Use," University of Toronto, Ontario Agricultural College, 1959.

151. Institute for Community Development and Services, The Proposed Pictured Rocks National Lakeshore, An Economic Study, East Lansing, Mighigan State University, 1963, prepared for the National Park Service.

152. _____, Report on the Economic Feasibility of the Proposed Sleeping Bear National Seashore, prepared for the National Park Service, East Lansing, Michigan State University, 1961.

153. Isbary, Gerhard, "Ein damm durch das Watt fur das Erholungswesen," Raumforschung und Raumordnung, vol. 20, 1962, 35-36.

154. Ise, John, Our National Park Policy: A Critical History, Resources for the Future, Johns Hopkins, Baltimore, 1961.

155. Jackson, John B., "The Imitation of Nature," Landscape, vol. 9, No. 1, 1959, 9-12.

156. _____, "Other-Directed Houses," Landscape, vol. 6, No. 2, 1956-1957, 29-35.

157. _____, "We Are Taken for a Ride," Landscape, vol. 11, No. 3, 1962-20-22.

158. James, Preston E. and Jones, Clarence F., American Geography: Inventory and Prospect, Syracuse, Syracuse University Press, 1954, see McMurry's "Recreational Geography," 251-255.

159. Jarrett, Henry, (ed), "Comparisons in Resource Management: Six Notable Programs in Other Countries and Their Possible U. S. Applications," Resources for the Future, Johns Hopkins Press, Baltimore, 1961.

160. Johnson, Hildegard B., "Geographic Research in Outdoor Recreation: A Case Study of Recreational Usage of the Whitewater Valley, Minnesota," Outdoor Recreation in the Upper Great Lakes Area, Lake States Forest Experiment Station Paper No. 89, St. Paul, 1961, 68-78.

161. Johnson, Hugh A. and Huff, Judith M., Outdoor Recreation and Associated Research Needs for Suburban Forests, USDA, Economic Research Service, Washington, February 1967.

162. Johnson, Nora and Tyrrell, Joyce, "Problems and Techniques of Land Acquisition" in "Background Papers," RFTC, vol. 2, Ottawa, 1961, 1009-1026.

163. Joly, Jacques, "Le Tourisme Britannique en Savoie et en Dauphine," Revue de Geographie Alpine, vol. 51, 1963, 43-107.

164. Jones, (Robert Trent), Inc., "Recreational Potential of the Junipero Serra Freeway Through the Upper Crystal Springs Watershed," Sacramento, Division of Highways, 1967.

165. Jones, S. B., "Mining and Tourist Towns in the Canadian Rockies," Economic Geography, vol. 9, 1933, 368-378; idem., "Recreational Regions of the Geographical Society of Philadelphia," vol. 34, 1936, 50-72.

166. Jordahl, Harold C., "Conservation and Scenic Easements: An Experience Resume," Land Economics, vol. 39, 1963, 343-365.

167. Kaplan, Max, Leisure in America: A Social Inquiry, New York, John Wiley and Sons, 1960.

168. Kates, Robert, "The Pursuit of Beauty," a paper prepared for delivery to a symposium of the National Resources Institute at The Ohio State University, Columbus, May 24, 1966.

169. Kates, R. W., "Human Perception of the Environment," International Social Science Journal, 22, 4, pp. 648-660, 1970.

170. Kearns, Devin C., "On the Nature and Origin of Parks in Urban Areas," Professional Geographer, vol. 20, No. 3, 1968, 167-170. (Poor.)

171. Keogh, B. M., The Role of Travel in the Recreational Day-Trip, M.A. Thesis, University of Western Ontario, 1969.

172. Kerr, Clark, "The New Leisure: The New Wealth: The New Community" in "Metropolitan Area Problems: Report of the Pacific Coast Conference on Metropolitan Problems," University of California at Berkeley, 1960, 35-42.

173. King, David A., Characteristics of Family Campers Using the Huron-Manister National Forests, U. S. Forest Service, Research Paper LS-19, 1965.

174. Kitchen, James and Hendon, William S., "Land Values Adjacent to an Urban Neighborhood Park," Land Economics, vol. 43, No. 3, August 1967, 357-360.

175. Kneese, Allen V., "Measuring the Benefits of Developing and Maintaining Recreation Resources: Issues and Approaches" in Recreation Research in the Great Plains, Proceedings of a seminar sponsored by the Resource Economics Committee of the Great Plains Agricultural Council, South Dakota State College of Agriculture and Mechanic Arts, Brookings, 1962.

176. Knetsch, Jack L., "Outdoor Recreation Demands and Benefits," Land Economics, vol. 34, No. 4, 1963, 387-396.

177. _____, and Davis, Robert, "Comparisons of Methods for Recreation Evaluation" in Kneese and Smith, Water Research, Baltimore, Johns Hopkins Press, 1965, 125-142.

178. Kohn, Clyde, "Resort Settlements along the New England Coast," Annals of the Association of American Geographers, vol. 45, 1955, 196.

179. Kuehn, John, "Conflicts Within Recreation: An Emerging Problem in the Allocation of Water and Investment Funds," Land Economics, vol. 43, 1967, 456-461.

180. Lake States Forest Experiment Station, "Outdoor Recreation in the Upper Great Lakes Area: Proceedings of a Seminar in Research Needs," Station Paper No. 89, St. Paul, 1961.

181. Landsberg, Hans H.; Fishman, Leonard; and Fisher, Joseph, Resources in America's Future: Patterns of Requirements and Availabilities, 1960-2000, Resources for the Future, Johns Hopkins Press, Baltimore, 1963.

182. Lanning, V. H., The Wisconsin Tourist, Wisconsin Commerce Studies, vol. 1, Madison, 1950.

183. Lansing, J., "The Effects of Migration and Personal Effectiveness on Long Distance Travel," Transportation Research, 2, 4, pp. 329-338, 1966.

184. Lansing, J. and Marans, R. W., "Evaluation of Neighborhood Quality," Journal of the American Institute of Planners, 35, pp. 195-199, 1969.

185. Lanzilott, R. F., The Washington Tourist Survey, Recreational Resource Studies, vol. 17, Pullman Washington, 1951.

186. La Page, W. F., "The Camper Views the Interview," Journal of Leisure Research, vol. 1, No. 2, 1969, 181-186.

187. La Page, W. F., Successful Private Campgrounds. A Study of Factors that Influence the Length and Frequency of Camper Visits, U. S. Forest Service Research Paper NE-58, 1967.

188. La Pierre, Roger, "Aspects Geographiques de Tourisme á Montreal," Cahiers de Geographie de Quebec, No. 6, 1959, 295-303.

189. Larrabee, Eric and Meyersohn, Rolf, (eds), Mass Leisure, Glencoe, Illinois, The Free Press, 1958.

190. Lascombe, Paul, "Planning for the New Tourism," Landscape, vol 7, No. 2, 1957-1958, 21.

191. Lascombe, Ruth and Emmet, "Review of 'The Highway and the Landscape'", ed. by W. Brewster Snow, New Brunswick, 1959, Landscape, vol 10, No. 1, 1960, 56-57.

192. Lentnek, Barry; Van Doren, C. S. and Trail, James R., "Spatial Behavior in Recreational Boating," Journal of Leisure Research, vol. 1, Spring 1968, 103-124.

193. Leopold, Aldo, A Sand County Almanac, New York, Oxford University Press, 1966.

194. Leopold, Luna, "Landscape Esthetics," Natural History, vol. 78, No. 4, October 1969, 36-45.

195. Lerner, Lionel J., "Quantitative Indices of Recreational Values," Water Resources and Economic Development of the West, Western Agricultural Research Council Report No. 11, 55-80.

196. Lewis, Harrison F., "Wildlife as a Recreational Resource in the Atlantic Provinces" in "Background Papers," RFTC, vol. 2, Ottawa, 1961, 857-865.

197. Lewis, Philip H., Recreation and Open Space in Illinois, Division of Landscape Architecture and Bureau of Community Planning, Urbana, University of Illinois, 1961.

198. Lichfield, Nathaniel, "Cost-Benefit Analysis in Urban Re-development - A Case Study," Papers and Proceedings, Regional Science Association, vol. 16, 1965, 129-154.

199. Lime, D., A Spatial Analysis of Auto-Camping in the Superior National Forest of Minnesota: Models of Campground Selection Behavior. Unpublished Ph.D. Thesis, University of Pittsburgh, 1969.

200. Lime, D. W. and Cushwa, C. T., Wildlife Aesthetics and Auto Campers in the Superior National Forest, North Central Forest Experiment Station, St. Paul, Minnesota (U.S.D.A. Res. Paper NC-32), 1969.

201. Lindeman, Edward C., Leisure - A National Issue, New York, Association Press, 1939.

202. Love, L. D., Summer Recreational Use of Selected National Forest Campgrounds in the Central Rocky Mountains, U. S. Forest Service Research Paper, RM-5, 1964.

203. Lowenthal, David, "Tourists and Thermalists," Geographical Review, vol. 52, 1962, 124-127.

204. _____, "Nature and the American Creed of Virtue," Landscape, vol. 9, NO. 2, 1959-1960, 24-25.

205. _____, "Not Every Prospect Pleases: What Is Our Criterion for Scenic Beauty?," Landscape, vol. 12, No. 2, 1962-1963, 19-23.

206. Lucas, Robert C., "The Contribution of Environmental Research to Wilderness Policy Decisions," Journal of Social Issues, vol. 22, No. 4, 1966, 116-126.

207. _____, The Importance of Fishing as an Attraction and Activity in the Quetico-Superior Area, U. S. Forest Service Research Note LS-61.

208. _____, "The Quetico-Superior Area: Recreational Use in Relation to Capacity," unpublished M.A. thesis, University of Minnesota, 1962.

209. _____, The Recreational Capacity of the Quetico-Superior Area, U. S. Forest Service Research Paper LS-8, 1964.

210. _____, Recreational Use of the Quetico-Superior Area, U. S. Forest Service Research Paper LS-8, 1964.

211. _____, "The Status of Recreation Research Related to Users," Proceedings of the Society of American Foresters, 1963, 127-130.

212. _____, "User Concepts of Wilderness and Their Implications for Resource Management," Water Resources Paper, Boulder, University of Colorado Press, 1964, 29-39.

213. _____, Visitor Recreation to Timber Harvesting in the Boundary Waters Canoe Area, Forest Service Research Note LS-2, 1963.

214. _____, "Wilderness Perception and Use: The Example of the Boundary Waters Canoe Area," Natural Resources Journal, vol. 3, No. 3, January 1964, 394-411.

215. _____, User Evaluation of Campgrounds on Two Michigan National Forests, USDA Forest Service Research Paper NC-44, 1970.

216. Luten, D. B., "Parks and People," Landscape, Winter, 1962, 3-7.

217. McClellan, K. and Medrich, E. A., "Outdoor Recreation: Economic Considerations for Optimal Site Selection and Development," Land Economics, vol. 45, No. 2, 1969, 175-176.

218. McCurdy, Dwight, Ohio's Private Outdoor and Forest Recreation Enterprises, Forest Service, 1963.

219. MacDonald, Dwight, "Our Invisible Poor," New Yorker, January 19, 1963, 82-132.

220. McEwen, E. R., "The Organization of the Field of Recreation in Canada" in "Background Papers," RFTC, vol. 2, Ottawa, 1961, 1027-1036.

221. McMurry, K. C., "The Use of Land for Recreation," Annals of the Association of American Geographers, vol. 20, 1930, 7-20.

222. Macinko, G., "Saturation: A Problem Avoided in Planning Land Use," Science, vol. 149, 516-521.

223. Mair, Winston, "Elements of a Wildlife Policy" in "Background Papers," RFTC, vol. 2, Ottawa, 1961, 931-936.

224. Mansfield, N. W., "Traffic Policy in the Lake District National Park - Some General Considerations," Journal of the Town Planning Institute, 54, 6, pp. 263-270, 1968.

225. Maslow, A. H., "A Theory of Human Motivation," Psychological Review, 50, pp. 370-398, 1943.

226. Masser, I., "The Use of Outdoor Recreation Facilities," Town Planning Review, vol. 37, No. 1, 1966, 41-53.

227. Mattyasovszky, E., "Some Planning Aspects of Outdoor Recreation," Plan, Canada: Journal Town Planning Institute of Canada, vol. 4, 1963, 126-137.

228. Maw, R., "Construction of a Leisure Model," Official Architecture and Planning, August, pp. 924-935, 1969.

229. Mercer, D. C., "Urban Recreational Hinterlands," Professional Geographer, vol. 22, No. 2, 1970, 74-78.

230. _____, "Wilderness and Outdoor Recreation - The Example of Wilson's Promontory National Park," Geography Teacher, 9, 2, pp. 62-77, 1969.

231. _____, "Recreational Behaviour and Regional Park Planning," Australian Parks, 6, 4, pp. 15-20, 1970.

232. _____, "Discretionary Travel Behaviour and the Urban Mental Map," (Forthcoming, Australian Geographical Studies, October, 1971), 1971.

233. Merriam, L. C., "The Bob Marshall Wilderness Area of Montana - Some Socio-Economic Considerations," Journal of Forestry, vol. 62, 1964, 789-795.

234. Metropolitan Regional Council and Regional Plan Association, Park, Recreation and Open Space Project of the Tri-State New York Metropolitan Region, New York, 1960.

235. Meyer, H. D. and Brightbill, C. K., Community Recreation, Englewood Cliffs, N. J., Prentice-Hall, 1956.

236. Meyersohn, Rolf, "The Sociology of Leisure in the United States," Journal of Leisure Research, vol. 1, Winter 1969, 53-68.

237. Michigan Dept. of Commerce, Michigan Outdoor Recreation Demand Study, Technical Report No. 6, Lansing, 1966.

238. Milgram, S., "The Experience of Living in Cities," Science, 167, pp. 1461-1468, 1970.

239. Milliman, J. W., "Can People Be Trusted With Natural Resources?" Land Economics, vol. 38, 1962, 199-218.

240. Milstein, David N., "An Economic Approach to Leisure Analysis," Social Problems, vol. 9, Summer, 1961.

241. _____, "Systems Analysis for Outdoor Recreation," Michigan State Economic Record, MSU, East Lansing, Mich., vol. 9, No. 7, 1967, pp. 1-7.

242. Mitchell, Lisle S., "The Facility Index as a Measure of Attendance at Recreation Sites," Professional Geographer, vol. 20, No. 4, 1968. 276-278.

243. _____, "An Empirical Study of Urban Recreation Units: Playgrounds as Central Places," unpublished Ph.D. dissertation, Dept. of Geography, Ohio State University, 1967.

244. Moss, William T., "Some Human Aspects of Camping," American Forests, vol. 70, 1964, 24-25, 45-46.

245. Mueller, Eva and Gurin, Gerald, The Demand for Outdoor Recreation, Ann Arbor, Institute for Social Research, University of Michigan, 1961.

246. Mumford, Lewis, "The Social Function of Open Spaces," Landscape, vol. 10, No. 2, 1960-1961, 1-6.

247. Murdie, R. A., "Cultural Differences in Consumer Travel," Economic Geography, 41, 3, pp. 211-233, 1965.

248. Murphy, Richard E., "Geography and Outdoor Recreation: An Opportunity and an Obligation," Professional Geographer, vol. 15, No. 5, 1963, 23-33.

249. Nagashima, K., "Future Urban Environment: Evolution of Social and Leisure Space with Reference to Japan," Ekistics, 178, pp. 218-222.

250. Nash, Jay B., Philosophy of Recreation and Leisure, St. Louis, C. V. Mosby Co., 1953.

251. Nash, Roderick, "The American Wilderness in Historical Perspective," Forest History, vol. 1, No. 3, 1963.

252. _____, Wilderness and the American Mind, New Haven and London, Yale Press, 1967.

253. National Academy of Science, A Program for Outdoor Recreation Research, NAS Study Conf. for USDI, BOR; NAS, Washington, D. C., 1969.

254. National Advisory Council on Regional Recreation and Planning, A User-Resource Recreation Planning Method, Hidden Valley, Loomis, California, 1959.

255. National Recreation Congress, "Spotlight on Recreation: USA: Recreation in a Mobile America," New York, National Recreation Association, 1962.

256. National Recreation School, "Out-of-City Parks and Recreation Areas Serving Cities of 50,000 and Over," New York, 1957.

257. Neumeyer, Milt and E. S., Leisure and Recreation, New York, A. S. Barnes and Co., 1949.

258. New York Plan Association, The Race for Open Space, New York, 1960.

259. Nichols, R. D., Lakeside Leisure Homes in Northwestern Wisconsin: A Geographic Analysis of the Twin Cities Ownership Pattern, Unpub. Ph.D. Thesis, University of Minnesota, 1968.

260. Ohio State University and Ohio Dept. of Highways, "A Short Course On Roadside Development," Columbus, annually.

261. Ontario Dept. of Lands and Forests, "Statistical Report on Provincial Parks," Toronto, annually.

262. Ontario Dept. of Travel and Publicity, "An Inventory Report of Recreation in the Kawartha Lakes Region," Toronto, 1961.

263. O'Riordan, T., "Planning to Improve Environmental Capacity: A Case-Study in Broadland," Town Planning Review, 40, 1, pp. 39-58.

264. Orning, George W., Private Boating in the National Forests of Minnesota, North Central Forest Experiment Station, Research Note NC-15, St. Paul, 1966.

265. Outdoor Recreation Resources Review Commission, Proceedings of the Fourth Joint Meeting With Its Advisory Council, "The Role of State and Local Government," 1961.

266. _____, Action for Outdoor Recreation for America, Washington, 1964.

267. _____, A Report to the President and to the Congress, 1962.

268. _____, Study Reports, 1962-1963.

269. Owens, George, "Factors Affecting Demand for Outdoor Recreation," unpublished Ph.D. dissertation, Dept. of Agricultural Economics and Rural Sociology, Ohio State University, 1968.

270. Peterson, G. L. and Neumann, E. S., "Modelling and Predicting Human Response to the Visual Recreation Environment," Journal of Leisure Research, 1, 3, pp. 219-237, 1969. A More detailed account of this study is contained in Neumann, E. S. and Peterson, G. L., Evaluating Subjective Response to the Recreation Environment: A Quantitative

Analysis of Dissimlar Preferences for the Visual Characteristics of Beaches. Technical Report No. 1, Urban and Regional Planning Program, Dept. of Civil Engineering, The Technological Institute, Northwestern University, Evanston, Illinois, 1970.

271. Peterson, G. L. and Worrall, R. D., "An Analysis of Individual Preferences for Accessibility to Selected Neighborhood Services," Highway Research Record, 305, pp. 99-111, 1970.

272. Piefer, Josef, Leisure, the Basis of Culture, trans. by Alexander Dru, London, Faber and Faber, 1952.

273. Portmann, Adolf, "Man and Nature," Landscape, vol. 8, No. 1, 1958, 1-3.

274. Prendergast, J., "What People Want for Recreation," Transactions of the Twenty-Seventh North American Wildlife & Natural Resources Conference, pp. 59-66, 1962.

275. President's Research Committee on Social Trends, Recent Social Trends in the U. S., vol. 2, New York, McGraw-Hill, 1933.

276. Price, Edward, "Values and Concepts in Conservation," Annals of the Association of American Geographers, vol. 45, 1955, 64-84.

277. Priddle, G. B., Recreational Use and Wilderness Perception of the Algonquin Park Interior, M.A. Thesis, Clark University, 1964.

278. Prophet, E. C., "Some Types of Recreational Land Use in Michigan," Papers of the Michigan Academy of Science, Arts and Letters, vol. 22, 1936, 385-395.

279. _____, "The Tourist and Resort Industry," Annual Report of the Michigan Academy of Science, Arts and Letters, vol. 22, 1936.

280. Pushkarev, Boris, "Esthetic Criteria In Freeway Design," Proceedings of the Highway Research Board, vol. 41, 1962, 89-108.

281. _____, "The Esthetics of Freeway Design," Landscape, vol. 8, No. 1, 1958, 1-3.

282. Rabonowitz, C. B. and Coughlin, R. E., "Analysis of Landscape Characteristics Relevant to Preference," RSRI Discussion Paper Series, No. 38, 1970.

283. Ragatz, R. L., The Vacation Home Market: An Analysis of the Spatial Distribution of Population on a Seasonal Basis, Department of City and Regional Planning, Cornell University, Ithaca, New York.

284. Recreation Advisory Council, "Federal Executive Branch Policy Governing the Selection, Establishment and Administration of National Recreation Areas," Washington, 1964.

285. _____, "General Policy Guidelines for Outdoor Recreation," Washington, 1964.

286. _____, "A National Program of Scenic Roads and Parkways," Washington, 1964.

287. _____, "Policy Governing the Water Pollution and Public Health Aspects of Outdoor Recreation," Washington, 1964.

288. Reid, Leslie M., Outdoor Recreation Preferences--A Nationwide Study of User Desires, East Lansing, Michigan State University, 1963.

289. Rengert, A. C., Factors Related to Vacation Behavior, Unpublished M.A. Thesis, The Ohio State University, Columbus, 1970.

290. Richmond, D. R., "Whither the Tourist Industry?" Ontario Economic Review, vol. 1, No. 4, 1963, pp. 3-8.

291. Robillard, Claude, "Culture and Recreation in Montreal" in "Background Papers," RFTC, vol. 2, Ottawa, 1961, pp. 951-955.

292. Robinson, G. W. S., "Tourists in Corsica," Economic Geography, vol. 33, 1957, pp. 337-348.

293. Saarinen, T. F., Perception of Environment, Commission on College Geography, Resource Paper No. 5, Association of American Geographers, Washington, D. C., 1969.

294. Schmitt, R. C., "Travel, Tourism and Migration," Demography, 5, 1, pp. 306-310, 1968.

295. Scott, Stanley and McCarty, J. F., Recreational Use of Water Supply Reservoirs, 1957.

296. Sessoms, Douglas H., "An Analysis of Selected Variables Affecting Outdoor Recreation Patterns," Social Forces, vol. 42, October 1963, pp. 112-115.

297. Shafer, Elwood L., "Effects of Sampling Location, Period, and Method on Camper Survey Results," unpublished Ph.D. dissertation, Syracuse University, 1966.

298. _____, The Photo-Choice Method for Recreation Research, U. S. Forest Service, Research Paper NE-29, 1964.

299. _____, "Perception of Natural Environments," Environment and Behavior, June 1969, pp. 71-82.

300. _____ and Burke, Hubert, "Preference for Outdoor Recreation Facilities in Four State Parks," Journal of Forestry, vol. 63, July 1965, pp. 513-518.

301. _____ and Thompson, R. C., "Models that Describe Use of Adirondack Campgrounds," Forest Service, vol. 14, December, pp. 383-391.

302. _____ and Mietz, J., "Aesthetic and Emotional Experiences Rate High with Northeast Wilderness Hikers," Environment and Behavior, 1, 2, pp. 186-197.

303. _____ et. al., "Natural Landscape Preferences: A Predictive Model," Journal of Leisure Research, vol. 1, Winter, pp. 1-19.

304. Shanklin, John F., "Recreation Under the Microscope," American Forests, vol. 69, 1963, pp. 32-35.

305. Shepard, Paul, "The Nature of Tourism," Landscape, vol. 5, No. 1, 1955, pp. 29-33.

306. Sierra Club's 5th Annual Bicentennial Wilderness Conference Report, San Francisco, 1964.

307. Sommarstrom, A., The Impact of Human Use on Recreational Quality - The Example of the Olympic National Park Backcountry User, unpublished M.A. Thesis, University of Washington, 1966.

308. Sonnenfeld, J., "Variable Values in Space and Landscape: An Inquiry into the Nature of Environmental Necessity," Journal of Social Issues, vol. 22, 1966, pp. 71-82.

309. _____, "Personality and Behavior in Environment," Proceedings of the Association of American Geographers, 1, pp. 136-140, 1969.

310. Stagner, R., "Perceptions, Aspirations, Frustrations and Satisfactions: An Approach to Urban Indicators," The Annals of the American Academy of Political and Social Science, 388, pp. 59-68, 1970.

311. Stanton, William J., "The Purpose and Source of Seasonal Migration to Alaska," Economic Geography, vol. 31, 1955, pp. 138-148.

312. Stedman, G. H., "Business Aspects of Vacation Travel," New York State Commerce Review, vol. 1, 1947, pp. 7-13.

313. Stevens, S., "A Metric for the Social Consensus," Science, 151, pp. 530-541, 1966.

314. Stirrett, J., "Recreational Land Use Along the Western Coast of Parry Sound," unpublished B.A. thesis, Dept. of Geography, University of Toronto, 1954.

315. Snow, W. Brewster, (ed.), The Highway and the Landscape, Rutgers University Press, New Brunswick, N. J., 1959.

316. Stillwell, H. Daniel, "National Parks of Brazil: A Study in Recreational Geography," Annals Association of American Geographers, vol. 53, 1963, pp. 391-406.

317. Stone, Walter L., The Field of Recreation, New York, The William-Frederick Press, 1949.

318. Stone, G. and Taves, M., "Research into the Human Element in Wilderness Use," Proceedings of the Society of American Foresters, pp. 26-32, 1956.

319. Storey, Edward H., "A Method of Estimating Demand for Outdoor Recreation," unpublished Ph.D. dissertation, University of Illinois, 1964.

320. Swigel, E. O., Work and Leisure--A Contemporary Social Problem, College and University Press, New Haven, Conn., 1963.

321. Taylor, James A., "The Natural and Cultural Relationships of Tourist Outfitter's Camps in Northern Ontario," unpublished Ph.D. dissertation, University of Illinois, 1962.

322. Thompson, "Politics in the Wilderness: New York's Adirondack Forest Preserve," Forest History, vol. 6, No. 14, 1963.

323. Thompson, B., "Recreational Travel: A Review and Pilot Study," Traffic Quarterly, pp. 527-541, 1967.

324. Thompson, D., "New Concept: Subjective Distance," Journal of Retailing, 39, pp. 1-6, 1963.

325. Tiedemann, C. E. and Milstein, D., "Travel Models," Chapter 4 in vol. 1, "Methods and Models," Michigan Outdoor Recreation Demand Study, State Resource Planning Program, Michigan Dept. of Commerce, 1966.

326. Tilden, Freeman, The National Parks: What They Mean to You and Me, Knopf, New York, 1954.

327. _____, The State Parks: Their Meaning in American Life, Knopf, New York, 1962.

328. Tombaugh, L., "Factors Influencing Vacation Home Locations," Journal of Leisure Research, 2, 1, pp. 54-63, 1970.

329. "Tourism and Mobility," Landscape, vol. 11, No. 3, 1962.

330. Trow, W. C., Recreation and Leisure, New York, McGraw-Hill, 1951.

331. Tuan, Yi-Fu, "Topophilia; or, Sudden Encounter with the Landscape," Landscape, vol. 11, No. 1, 1961, pp. 29-32.

332. Tunnard, C. and Pushkarev, B., Man-Made America: Chaos or Control?, Yale University Press, New Haven, 1963.

333. Tunstell, G., "Using the Forest for Many Purposes," in "Background Papers," RFTC, vol. 2, Ottawa, 1961, pp. 661-668.

334. Ullman, Edward L., "Amenities as a Factor in Regional Growth," Geographical Review, vol. 44, 1954, pp. 119-132.

335. _____ and Volk, Donald J., "An Operational Model for Predicting Reservoir Attendance and Benefits: Implications of a Location Approach to Water Recreation," Papers of the Michigan Academy of Science, Arts and Letters, vol. 67, 1962, pp. 473-484. Uses intervening opportunities.

336. _____, Boyce, Ronald R. and Volk, Donald J., Recreation--The Meramec Basin, vol. 3, Water Needs and Problems, St. Louis, Washington University, 1961.

337. _____ et. al., The Meramec Basin: Water and Economic Development: Report of the Meramec Basin Research Project, 3 Vols., Washington University, St. Louis, 1962.

338. U. S. Dept. of Agriculture, Forest Service, "Work Plan for the National Forest Recreation Survey--A Review of the Outdoor Recreation Resources of the National Forests, Washington, 1959.

339. _____, Resource Development, Economics Division, "Rural Residential Recreation Subdivisions Serving the Washington, D. C. Area," Agricultural Economic Report No. 59, G.P.O., 1963.

340. _____, "Resources and Recreation in the Northern Great Lakes Region: A Dept. of Agriculture Task Force Report," G.P.O., 1963.

341. U. S. Dept. of Commerce, "A Proposed Program for Scenic Roads and Parkways," Washington, G.P.O., 1966.

342. U. S. Dept. of the Interior, Community Recreation and the Public Domain, Washington, G.P.O., 1963.

343. _____, A Directory of Private Organizations Providing Assistance in Outdoor Recreation, Washington, G.P.O., 1966.

344. _____, Federal Assistance in Outdoor Recreation, Washington, G.P.O., 1966.

345. _____, The Land and Water Conservation Fund Program, Washington, G.P.O., 1964.

346. _____, Bureau of Land Management, Recreation Site Inventory and Evaluation, Washington, 1963, Form 4-1644.

347. _____, "Federal Focal Point in Outdoor Recreation," Washington, G.P.O., 1966.

348. _____, "Inventory, Classification and Evaluation of Existing Outdoor Recreational Areas and Facilities," Washington, 1965. Form 8-73.

349. _____, Outdoor Recreation Space Standards, Washington, G.P.O., 1967.

350. Vandall, Paul E., "Essex County Shores: A Land Use Study," unpublished M.A. thesis, Dept. of Geography, University of Western Ontario, 1961.

351. Van Doren, C. S., "Recreational Boating in Michigan." A paper presented at the Michigan Academy of Science, Arts and Letters, Wayne State University, Detroit, Michigan, March 1961.

352. _____, "A Recreational Travel Model for Predicting Campers at Michigan State Parks," unpublished Ph.D. dissertation, Dept. of Geography, Michigan State University, 1967.

353. _____ and Lentnek, Barry, "Activity Specialization Among Ohio's Recreation Boaters," Journal of Leisure Research, vol. 1, No. 4, Autumn, 1969, pp. 296-315.

354. Vollnen Ostrover Associates, "The Staten Island Greenbelt," New York, 1967.

355. Wagon, J. Alan, "Management of Multiple-Use Resources for Recreation," Western Resource Papers, Boulder, University of Colorado Press, 1964, pp. 9-19.

356. Wager, J. F., "Outdoor Recreation on Common Land," Journal of the Town Planning Institute, vol. 53, No. 9, 1967, pp. 398-403.

357. Washington State Parks and Recreation Commission, We Come to Camp in Washington State Parks--Overnight Camping Survey, 1956, Olympia 1956.

358. Webber, M., "Culture, Territoriality, and the Elastic Mile," Papers of the Regional Science Association, 13, pp. 59-69, 1964.

359. Wennergren, E. Boyd, Value of Water for Boating Recreation, (Bulletin 453), Logan: Agricultural Experiment Station, Utah State University, 1965.

360. _____, ed. Nielson, Darwin B., A Probabilistic Approach to Estimating Demand for Outdoor Recreation, Bulletin 478, Logan, Utah State University, 1968.

361. Whyte, William H., Jr., "Connecticut's Natural Resources: A Proposal for Action," 1962, (Mimeographed).

362. _____, "A Plan to Save Vanishing U. S. Countryside," Life, August 17, 1959, pp. 88-102.

363. _____, "Securing Open Space for Urban America: Conservation Easements," Urban Land Institute Technical Bulletin 36. Washington, 1959.

364. Williams, Wayne R., Recreation Places, (Reinhold Progressive Architecture Library), Reinhold Publishing Corporation, New York, 1958.

365. Williams, A. and Zelinsky, W., "On Some Patterns in International Tourist Flows," Economic Geography, 46, 4, pp. 549-567, 1970.

366. Wingo, Lowden, "Recreation and Urban Development: A Policy Perspective," Annals of the American Academy of Political and Social Sciences, pp. 129-140.

367. Wisconsin, Dept. of Resource Development, Recreation in Wisconsin, Madison, 1962.

368. Withington, William A., "Upland Resorts and Tourism in Indonesia: Some Recent Trends," Geographical Review, vol. 51, 1961, pp. 418-423.

369. Wohlwill, J. F., "The Physical Environment: A Problem for a Psychology of Stimulation," The Journal of Social Issues, 22, 4, pp. 29-38, 1966.

370. Wolfe, R. I., "About Cottages and Cottagers," Landscape, 15, 1, pp. 6-8, 1965.

371. _____, "Parameters of Recreational Travel in Ontario--A Progress Report," Ontario Dept. of Highways Report RB111, March 1966.

372. _____, "Vacation Homes and the Gravity Model," Ekistics, 174, pp. 352-353, 1970.

373. _____, "Perspective on Outdoor Recreation--A Bibliographical Survey," Geographical Review, vol. LIV, No. 2, April 1964, pp. 203-235.

374. _____, "Summer Cottagers in Ontario," Economic Geography, vol. 27, 1951, pp. 10-32.

375. _____, "Ontario Summer Resorts in the Nineteenth Century," Ontario History, vol. 54, 1962, pp. 149-161. (Excerpt from No. 152)

376. _____, "A Use Classification of Parks by Analysis of Extremes," D.H.D. Rep. # RR 134, Dept. of Highways, Ontario, 1967.

377. _____, "Communication," Journal of Leisure Research, vol 2, No. 1, 1970, pp. 85-87.

378. Wollman, Nathaniel, et.al., "The Value of Water in Alternative Uses": A Study Conducted by a Special Committee under the Direction of Nathaniel Wollman, University of New Mexico Press, Albuquerque, 1962. pp. 220-281 by Wollman)

379. Wolpert, J., "Migration as an Adjustment to Environmental Stress," Journal of Social Issues, vol. 22, No. 4, 1966, pp. 218-222.

380. Wood, Samuel E. and Alfred E. Helles, "The Phantom Cities of California," California Tomorrow, Sacramento, 1963.

381. Wood, Donald F., Pleasure Boating in Wisconsin, Dept. of Resource Development, Madison, 1961; Idem., "The Distance-Traveled Technique for Measuring Value of Recreation Areas," Land Economics, vol. 37, No. 4, 1961, pp. 363-369.

382. Workshops on Recreation, Proceedings of the Resources for Tomorrow Conference, vol. 3, Ottawa, 1962, pp. 3-8.

383. Workshops on Recreation, Proceedings of the Resources for Tomorrow Conference, vol. 3, Ottawa, 1962, pp. 167-188.

384. Yukic, Thomas S., Fundamentals of Recreation, New York, Harper and Row, 1963.

385. Zelinsky, Wilder, "The Hypothesis of the Mobility Transition," Geographical Review, April 1971, pp. 223-244.

386. Zierer, C. M., "Tourism and Recreation in the West," Geographical Review, vol. 42, 1952, pp. 462-481.

NOTE: While this list is relatively long, it is not meant to be exhaustive. Many theses and dissertations were not included, many government bills were left out as were a plethora of planning reports for specific cities and counties and foreign language articles. It is hoped, though, that this list will cover many of the studies in recreation up to the middle of 1971.